MINUTE
BOOK
SCOT. MET.
SOCY
1860–54 / 66

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THE VALUE OF THE BAROMETER: KNOWLEDGE IS POWER.—It is a circumstance that cannot be too generally known, that before the commencement of the late storms on the northern coasts, which caused the loss of a large number of brave fishermen, one village avoided the disaster through the inhabitants being better educated than in other places near; they understood the working of the barometer, and believed in it. In consequence of the aspect of this instrument, the men determined not to venture to sea; and it "would have been well," says a northern contemporary, "if they had also taken the precaution to drag their boats out of danger," and then they would have escaped without the destruction of either property or life. Mch 1858

Minute Book
of
The Scottish Meteorological
Society.
Vol. III.

April 5/68 –

Scottish Meteorological Society –

Minute of Meeting, of the Committee of the Council, held in the Society's Chambers on 10th July 1860 –

Present The Marquis of Tweeddale, President of the Society –
Mr. Milne Home – in the Chair –
Mr. Johnston –
The Meteorological Secretary –
The Treasurer.

The question as to printing Mr. Jamieson's Prize Essay was considered – It was agreed that Mr. Jamieson should be requested, with such sug:gestions as the Council might offer to him, to condense his Essay, with a view to its being printed for the use of the Society and for publi:cation. From an Estimate which had been furnished by the Printers generally employed by the Council it appeared that the Essay, as it stands, could be printed, and 500 Copies furnished, for about £11 –, or 1000 Copies for about £14. 15/ –. The Meeting agreed that Ten pounds should be applied, if need should be, toward the printing and publishing of the Essay, on condition that not fewer than (300) Three hundred Copies should be at the command of the Society. And the Chairman was requested, and agreed, to correspond with Mr. Jamieson, and arrange with him as to him, the Chairman, might seem best –

The

10th July 1860 –

The other matter for which the Meeting had been called was then taken up, viz, the Subject to which the Meteorological Secretary's attention should next be directed – It was agreed on that the matter of Rainfall should be that next taken up by him – for the next Quarterly Report.

The Society's Reports, from 1857 downwards, were directed to be sent to The Royal Society, through Professor Forbes, who had written to the Chairman expressing regret that since the year mentioned no Copies had been received – And Copies of the present and coming Quarterly Reports to be sent to Sir Alexander Milne and to Professor Everett, Windsor, Nova Scotia –

Meeting of Council, held within the Society's Chambers on 3d September 1860 –

Present –
The Honble Lord Currichill –
Mr Leslie –
Dr Sellers –
The Meteorological Secretary –
The Treasurer –

Lord Currichill was requested to take the Chair –

The Treasurer stated that he had called the

present

present Meeting, (though he had reason to believe that the Convener had not yet returned from the Continent), at the request of the Meteorological Secretary, on account of the near approach of the time when it had been usual to issue the Report for the Quarter ending on 30th. June. The Meeting approved of their having been called together, and trusted to their receiving the sanction of a fuller Meeting of the Meeting for whatever they might agree upon toward obviating inconvenient delay in the issuing of the Quarterly Report.

The Minutes of last Meeting of Council, held on 27th. June last, and of last Meeting of the Sub-Committee, held on 10th. July last, were read and Mr. Burgess mentioned that the matters noticed in these Minutes had all been duly attended to -

Mr. Burgess read over the Paper which he had prepared, as directed, on Rainfall in Scotland; and he submitted a Table which he had constructed in illustration of the subject -

The Meeting, looking to the limited number present, and especially in absence of the Convener, thought their best course was to remit the Dft. Report to the Sub-Committee, that they might take all due steps toward a timeous issue of it.

Mr. Burgess laid on the table the following Donations of Books which had been received since last Meeting of Council -

Magnetical and Meteorological Observations made at St. Helena, 1844-49 -

Proceedings of the Literary and Philosophical Society of Liverpool during the 49th. Session, 1859-60 -

A. S.

3rd September 1860 –

A Pamphlet, from Principal Forbes, St Andrews,
And other two –
Thanks were directed to be returned to the
Donors, and an interchange of Reports to be
proposed to the Literary and Philosophical Society
of Liverpool –

Meeting of Council, held in
the Society's Chambers on
11th October 1860 –

Present – Mr Milne Home – in the Chair –
Mr Cunningham –
Mr Stephens –
Dr Mitchell –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting of Council,
held on 3rd ulto., were read –
The Amount of Arrears of Subscriptions outstanding
was again considered, and a fresh Circular was
directed to be issued to the Members in arrear,
in which the usual modes of remitting small
sums should be mentioned –
The subject to be specially treated of in
next Quarterly Report was taken up, when it was
agreed on that the Humidity of the Atmos:
phere in Scotland should be the one chosen –
A Donation of Pamphlets, from Admiral
Fitz Roy –

FitzRoy, was laid before the Meeting -

Dr. Mitchell's Paper on the Atmometer, and Mr. Forbes of Culloden on the Eclipse in July 1860, were directed to be published with next Quarterly Report -

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Meeting of Council, held in the Society's Chambers on 12th. December 1860 -

Present - Mr. Milne Home - in the Chair -
The Marquis of Tweeddale, President of the Society -
Mr. Stevenson -
Mr. Stephens -
Mr. Leslie -
Dr. Coldstream -
Mr. Johnston -
Mr. Crekburn -
Mr. Richard Hunter -
Dr. Mitchell -
Capt. Thomas -
Dr. Seller -
The Meteorological Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 11th. October last, were read, and found correct -

A communication from Mr. G. J. Symons, of London, dated 29th. November 1860, was read

when it was resolved that Mr Symons should be left to correspond with the Society's Observers individually, if he should see fit, as a preferable means of attaining his object to the Society's taking up the subject as a Society - Mr Burgess was directed to intimate to Mr Symons accordingly -

Mr Burgess read a Memorandum which he had, at the request of the Chairman, prepared, on the progress of the Society during the last six months - This Memorandum, and relative communications from Mr Piazzi Smyth and others, were remitted, on the Chairman's suggestion, to himself and Messrs Stevenson, Stephens, and Leslie, that they might consider whether any, and what, parts of them might be inserted in the Quarterly Report about to be issued - The final adjustment of the Quarterly Report, and also the arrangements for the Half yearly General Meeting in January next, were remitted to the same Committee -

The Marquis of Tweeddale intimated that Major Hay, Linden Lodge, Lasswade, desired to be admitted a Member of the Society, and he was cordially admitted accordingly -

The Treasurer requested the attention of the Council to a Bust, in plaster, of the late Sir Thomas Macdougall Brisbane, which was in the room, and the Council's acceptance of it, if they should think the likeness, and the execution, worthy of so distinguished a Man of Science - The Council accepted the Bust, and their thanks were expressed to the Treasurer for the gift of it -

The subject of the Secretaryship was then taken up

taken up, and Mr. Burgess left the room - The Chairman stated the grounds on which he thought it deserved consideration whether a change might not be made, with advantage to the Society, in the person holding the Office - After considerable discussion of the whole subject, it was agreed to adjourn this Meeting till Friday next, at One P.M., of which due notice to be given -

Minutes of Adjourned Meeting of Council, in the Society's Chambers, on 14th. December 1860, at One P.M. -

Present - Mr. Milne Home - in the Chair -
Mr. Stevenson -
Mr. Leslie -
Mr. Stephens -
Dr. Seller -
Mr. Richard Hunter -
Mr. Cunningham -
Mr. Johnston -
The Meteorological Secretary -
The Treasurer -

The Minutes of the Meeting held on 12th. inst. were read and adjusted -

The Chairman stated that Mr. Burgess (who had previously left the room) had called for him and mentioned that he had prepared a statement which he was anxious to submit to the Council at their adjourned Meeting of this day, and as

and he proposed that Mr. Burgess should be called in and that the Council should hear his proposed statement. This was agreed to, and Mr. Burgess was called in, and read his statement accordingly. The discussion of the subject was then resumed, when the Chairman moved that notice should be given to Mr. Burgess that as the period of his existing engagement would expire on First January next the Council did not consider it, on the whole, to be for the interest of the Society that it should be renewed; and that he must hold it to be terminated as at that date accordingly. Mr. Stephens seconded the Chairman's motion, which was agreed to. Mr. Burgess was then called in, and intimation was made to him accordingly.

The Chairman submitted a Dft. Advertisement of Prizes which The Marquis of Tweeddale had agreed to offer for Observations with the Maximum and Minimum Thermometer, which the Meeting authorized to be inserted in the following Newspapers, vizt. –

The N. B. Advertiser.
The N. B. Agriculturist –
The E. E. Courant –
The Scotsman.

three times in each Paper –

It was resolved that the Half yearly General Meeting should be held on 16th. January next at half past two o'clock, or immediately after the Meeting of The Highland & Agricultural Society, and in their Museum –

The Chairman stated that a communication had been received from Mr. Matthewson, the

Society's &c

14th December 1860.

Society's Observer at East Yell, Zetland, to the effect that arrangements were in the course of being made for having Observations carried on in the Faro Islands, with the Barometer, Thermometer, and Hygrometer.

Meeting of Council, held in the Society's Chambers, on 21st December 1860.

Present. Mr Stevenson.
Mr Richard Hunter.
Dr Seller.
Mr Leslie.
Mr Cunningham.
Dr Coldstream.
Mr Johnston.
The Meteorological Secretary.
The Treasurer.

In the absence of the Convener, who was prevented from attending, Mr Stevenson was called to the Chair.

The Minutes of last Meeting were not read, owing to the Dft Minute Book not being on the table.

A letter from the Convener, dated inst., was read, having reference to, inter alia, the arrangements which would fall to be made in consequence of the change in the Meteorological Secretaryship. The following Committee was

was appointed for the purpose of making the necessary arrangements, and the Convener's Letter was remitted to it, viz.^t, Mess.^rs Stevenson, Hunter, Leslie, and Johnston. Mr. Stevenson to be Convener of the Committee.

Mr. Hunter moved that Mr. Alexander Buchan, Teacher of the Free Church School, Dunblane, who was a Candidate for the Office, and had been seen by a good many of the Members of the Council, as well as by the President of the Society, should be recommended to the Half yearly General Meeting of the Society, about to be held, for the Office of Meteorological Secretary, which motion was seconded by Mr. Leslie, and adopted.

Some conversation took place regarding the Vacancies in the Council which would fall to be filled up by the General Meeting to be held on 16th prox.^o, when it was agreed on that the name of Mr. Robert Leslie, a Member of the Society, should, among others, be suggested for election.

Meeting of Committee named at Meeting of Council on 21st De:cember 1860, for making arrange:ments on the change of Meteorolo:gical Secretary, held in the Society's Chambers on 28th December 1860.

Present. Mr. Stevenson in the Chair.
Mr. Hunter.
Mr. J

28th. December 1860 -

Mr. Leslie -
Mr. Johnston -
Mr. Burgess -
Mr. Buchan -
The Treasurer -

Mr. Milne Home's Letter which had been remitted, along with that part of the Minutes of last Meeting of Council which contained the remit, were read and considered - Mr. Burgess laid on the table the List of Instruments &c. which had been handed over to him by Mr. Everett, and one which he had prepared, including all which had been added since his appointment - These were handed over to the care of Mr. Buchan - As Mr. Burgess, owing to the alarming illness of his Father, was obliged to leave Town for Dumfries this afternoon, he undertook to give, on his return to Town, which he expected to be in the course of next week, every information and assistance in his power to Mr. Buchan, towards his initiation in the duties of the Meteorological Secretaryship -

Meeting

Meeting of Council held in the Society's Chambers on 9th. January 1861 -

Present - Mr. Milne Home - in the Chair -
Mr. Miller -
Dr. Teller -
Mr. Stephens -
Mr. Cunningham -
Mr. Cockburn -
Mr. Leslie -
Mr. Johnston -
Mr. Buchan -
The Treasurer -

The Minutes of the Meeting's of the Council held on 14th. and 21st. ulto., and those of the Meeting of Committee held on 28th. ulto., were read, and found correct -

The Treasurer stated that, as intimated in the Billets, this Meeting was held for the purpose of making arrangements for the Half Yearly General Meeting to be held on 16th. instt. -

The Treasurer was authorized to insure the Society's Instruments against Fire, to the extent of One hundred pounds, in The Sun Fire Office, or some other respectable one -

It was remitted to the Chairman and the Treasurer to communicate with the following Gentlemen, with a view to ascertaining whether they were willing to be proposed as Members of the Council (to fill up the vacancies caused by the retirement of the following Gentlemen who go out in rotation, Vizt., Sir Thomas

9th January 1861 –

Sir Thomas Buchan Hepburn, Sir W. Jardine, Mr. Russell, Mr. Heuter of Thurston, and Dr. Coldstream – J Wgts, Mr. Hope, Fenton Barns, Professor Balfour, Major Hay, Mr. Robert Leslie, and Mr. Thomas H. Core, Normal School, Castle Terrace –

The Meeting nominated Mr. Cockburn, Mr. Stevenson, and Mr. Johnston, as a Committee to prepare a Circular, with a view to its' being issued among parties who might be thought likely to join the Society. Mr. Cockburn to be Convener –

The Chairman stated that inquiries had been made by various parties who thought of competing for the Prize now offered by The Marquis of Tweeddale, as to the details of the Conditions to be observed by Competitors; and he submitted to the Meeting a Paper which he had prepared on the subject, which, he suggested, might be remitted to Mr. Stevenson and himself, as a Committee, for consideration and report to next Meeting of Council. Agreed to –

The Chairman was requested to write to The Marquis of Tweeddale requesting, specially, his attendance at the General Meeting on the 16th, and that His Lordship would preside on the occasion –

It was agreed that the subject to be taken up by the Meteorological Secretary for next Quarterly Report should be "The Barometer."

It was suggested that the Meteorological Secretary might be instructed to collect, from Scientific records and any other sources, the particulars of the Extremes of Temperature in Britain and other European Countries –

Meeting I

Meeting of Council, in the Museum of the Highland & Agricul:tural Society, on 16th January 1861, at 2 P.M.—

Present — Mr. Milne Home — in the Chair —
The Marquis of Tweeddale —
Lord Curriehill —
Mr. Stephens —
Mr. Cunningham —
Mr. Johnston —
Mr. James Leslie —
Mr. Miller —
Mr. Russell —
Mr. Richard Hunter —
Captn. Thomas —
The Meteorological Secretary —
The Treasurer —

The Minutes of last Meeting, held on 9th inst., were read, and found correct —

The Chairman ~~read~~ submitted Resolutions to be proposed to the General Meeting about to be held, which were approved —

It was agreed that next Quarterly Report should contain a Notice of the recent severe Frost, and the Gentlemen present were requested, and agreed, to fur:nish any materials for such Notice which they might possess —

The Meteorological Secretary referred to the great necessity that existed for the Society's Observers adhering to the Rules as to uniformity in the hour of taking Observations and recording them; and he was directed to urge this upon them —

SCOTTISH METEOROLOGICAL ASSOCIATION.

(*From the Scotsman of January* 18, 1861.)

THE half-yearly meeting of the subscribers to the Scottish Meteorological Association was held on Wednesday afternoon, in the New Hall of the Highland and Agricultural Society, George IV. Bridge. The Marquis of Tweeddale, President of the Association, occupied the chair.

Mr D. MILNE HOME of Wedderburne gave in the report of the Council, which was as follows :—

At the last general meeting in June the Marquis of Tweeddale's prize of £20 for the best essay on rainfall having been awarded to Mr T. F. Jameson, of Ellon, Aberdeenshire, a communication was made to that gentleman by the Council that if he wished to publish his essay the Council would be happy to contribute £10 towards the expense, on condition of receiving 300 copies for distribution among members of the Society. Mr Jameson having acceded to this arrangement, the essay was published, and copies were sent to members. The Council are happy to be able to state that the essay has created very general interest, and has been accepted by scientific men as an important contribution to meteorology.

Monthly returns from the Society's stations continue to be received at the Society's office with punctuality; and have undergone, when received, the examination by our secretary which is necessary to check inaccuracies. Inaccuracies which had escaped him have also been occasionally pointed out by Professor Piazzi Smyth, when discovered by him in classifying and reducing the observations for the Registrar-General. In reference to this matter, it is right that observers should be made aware of the power which is vested in Professor Piazzi Smyth to reject returns, if material errors have been pointed out by him, should similar errors be repeated in subsequent returns from the same stations. The Council find it necessary to advert to this point, because one or two observers have expressed themselves annoyed at being called on to explain anomalous entries in their returns. They seemed to consider that it was incumbent on the Council and on the Government officers to accept of the observations just as they appear in the schedules, without examination or inquiry; and some doubt also was indicated as to the possibility of a party residing in Edinburgh discovering errors in observations made at a distant station. In consequence of these views, the Council think it right to say that one of the chief duties of the Society's secretary is to examine every monthly return, so soon as received by him, with the view of discovering mistakes, should such have been made either in observing or in recording; and that if it occurs to him that such mistakes have been committed, it is his duty immediately to write for an explanation. It is hardly necessary for the Council to point out that the object of this examination and inquiry is to ensure as far as possible correctness. With regard to the means of discovering errors, these may be afforded by the return itself, if the observations show inexplicable or anomalous irregularities; or by the returns of adjoining stations, if they differ materially from the one which is suspected.

Since the last general meeting two quarterly reports have been issued under the sanction of the Council, and have been as usual circulated among members and observers. These reports contain, besides the abstracts of returns from stations, various other matters of meteorological interest. In the first place, there are tables to show the amount of rainfall at sixty-six places in Scotland, the quantity fallen being given for each month in the years 1858 and 1859, and the total of the year for each of the two previous years. Then there are tables of the humidity of the air at 37 stations, on the average of each month, for the last four years.

The tables now referred to, showing the rainfall and humidity of the air, have been computed and constructed by the Society's secretary. Members of the Council have also supplied some papers of interest. Mr Thomas Stevenson, C.E., has given a description of an anemometer to register the maximum force of the wind; Dr Mitchell, an instrument combining an evaporometer and a pluviometer; Captain Thomas has supplied some valuable observations on the temperature of the sea on the west coast of Scotland.

The Marquis of Tweeddale has again liberally come forward to offer a prize on a subject of meteorological interest. The observations made on the temperature of the atmosphere at all the Society's stations, and at most other places, are with thermometers either in the shade, or in the sun, and, in this last case, with blackened bulbs. In the former case the instruments indicate a more equable, and probably a lower, temperature than if exposed to the sun. In the latter case, owing to the powerful effect of black colour in both absorbing and radiating heat, extremes of heat and of cold are shown, which do not truly represent the temperature of the atmosphere. The object of the Marquis of Tweeddale's prize is to afford the means of approximating more nearly to the actual temperature of the air, by exposing thermometers to the influence of the sun and weather; and thus to supply better data than exist at present for showing the meteorological conditions which determine the profitable cultivation of ordinary farm crops. The prize offered is £5 for the best set of observations in each of the eight districts into which Scotland is divided by the Registrar-General.

The Council have to mention that a number of donations of books and periodicals have been received during the last half-year, and which form important additions to the Society's library. The Society is also indebted to Mr Stevenson, C.E., for a barometer invented by himself to register the greatest amount of fall or of rise in the mercurial column since the time of the last observation. A cast of the bust of the late Sir Thomas Macdougal Brisbane, distinguished as a soldier and a man of science, and also a zealous member of the Society, has been presented by our treasurer, Mr Gibson.

With regard to the present state of the Society, it may be noticed that the number of our stations is nearly the same as it was—viz., about fifty-four. Several stations have ceased to send returns, one of which was especially noted for its accuracy—viz., Mackerston, the residence of the late Sir Thomas M. Brisbane. Since his death the instruments have been removed. One of the most valuable of these—a large barometer, by Newman, of London, and used at Mackerston for twenty years as a standard instrument—has been purchased by the Council, and is now in the Society's office. The want of Mackerston as a station has been, to some extent, supplied by a new station in that district, established at the request of the Council by the Duke of Roxburghe. There are several other new stations in the north and west of Scotland, where they were much required.

As the term of Mr Burgess' engagement expired at 1st January, the Council had to appoint a new secretary, and after particular inquiries, they selected Mr Alexander Buchan, teacher, Dunblane, who, the Council hope, will be found well qualified for the office.

The finances of the Society fall to be reported on at the half-yearly general meeting in July. The Council, therefore, are not called upon just now to report upon them. They, however, cannot forbear to express regret that the number of the subscribers to the Society is not larger than it is, as there are many most useful investigations which could be entered on were there more funds at the command of the Council. They have authorised a small committee of their number, of which Mr John Cockburn is convener, to take steps to make the claims of the Society for public support better known.

Mr Milne Home added that the Council had agreed to recommend that the Marquis of Tweeddale should be re-elected President, and Sir John S. Forbes, Vice-President, of the Association for the ensuing two years.

The report, along with the recommendation of the Council as to the office-bearers, was unanimously adopted.

The CHAIRMAN begged to take that opportunity of conveying the thanks of the meeting to Mr Milne Home, as Chairman of the Council, for the clear, admirable, and most agreeable manner in which he uniformly brought the business both before the Council and the general meetings. (Applause.) The noble Marquis went on to say that, although he was unable to announce so large an addition to the membership of the Association during the past year as he could have wished, it had been joined by several very eligible and influential gentlemen; and he had no doubt that, when its objects became better and more generally understood, the intelligent people of Scotland would take as great an interest in those important and interesting subjects to the elucidation of which it was devoted, as was taken in similar societies by the

inhabitants of other countries in Europe, and especially by the people of the United States. (Hear.) He hoped that attempts would soon be made to popularise the science of meteorology in its practical bearings upon every-day life, and particularly upon agricultural pursuits, in the same way as, to a large extent, the science of chemistry, in its bearings upon these subjects, had been popularised. He did not profess to be a theorist either in chemistry or meteorology, but he might refer to a circumstance which happened to himself while in India, as showing, more by way of experiment than anything else, what might be effected by a knowledge of simple elementary laws. It was usually understood that potatoes could not be successfully grown at ordinary elevations in India on account of the intense heat of the climate. There was, however, a spot in lat. 13°, about 4000 feet above the level of the sea, where a gentleman had raised a crop of large size and excellent quality, and he (the Marquis) was twitted by that gentleman that he could not raise potatoes at a lower level. He selected a piece of ground only about ten feet above the level of the sea, and of the worst possible quality. He then pulverised a small portion of the soil, planted his potatoes, and sunk two pits, one at each side, which he got filled with water every evening. The water evaporated before the next night, and the potatoes felt themselves in something like their natural climate, and grew beautifully. When they were ready, the gentleman brought down his potatoes, and at a dinner party of thirty-six people dishes of the two kinds were handed round, when the company decided that those grown at the low level by him (the noble Marquis) were the best. (Applause.) It was also supposed that wheat could not be grown in India, but by draining and pulverising the land, just as he did at

practical botanists, he said that one of the difficulties to be encountered arose from the great discrepancies in the markings of thermometers, as might be seen in the comparative details lately published in the newspapers. These differences depended not merely upon actual differences in the temperature of the atmosphere, but also upon the mode in which the observations were taken, the elevation and position of the instruments, and the construction of the instruments themselves. He believed the Meteorological Society of Scotland had done great service already by inspecting, testing, and improving the instruments used. This part of the subject was illustrated by tables showing the differences in the maximum, minimum, and mean temperature, indicated by the same thermometers at different elevations. Professor Balfour proceeded with some observations on the amount of heat required by plants at different times, the varying temperature of the soil, and the loss of heat occasioned by irradiation and evaporation. By way of appendix, the Professor then proceeded to read an interesting paper drawn up, at his request, by Mr M'Nab, of the Royal Botanic Gardens, Edinburgh, showing the effects observed on shrubs and trees immediately after the unprecedented frost of the 23d, 24th, and 25th December last. Mr M'Nab began by saying that the storm commenced late on the evening of the 18th December, with a very heavy shower of hail, lasting for some time, which was succeeded by a quiet fall of snow which continued throughout the night. At daylight on the morning of the 19th of December, the snow was twelve inches in depth all over the garden. On the morning of the 20th of December, about five inches of extra snow had fallen. For ten days the snow lay more or less heavy on all the shrubs, many being weighed down and broken by it. In some instances we

Yester, he had grown as fine wheat as could be produced in this country. All that he attended to was to sow the seed only about six weeks before the end of the monsoon, so that it should not be sufficiently advanced to have the bloom washed off during the rainy season. He believed that he could not have done that if he had not paid some little attention to meteorology. His Lordship next referred to the recent snow-storm in this country, and stated that having been in Edinburgh on the 17th, he heard of no depression of the barometer here, and went home without the slightest anticipation of the extraordinary fall of snow which took place on the night of the 18th. The barometer did fall, however, considerably on the 18th, but only about twelve hours before the snow-storm commenced—a period which was quite insufficient to enable the hill shepherds to collect their flocks, and place them in safety. But it so happened that the shepherds in his neighbourhood had collected their flocks, and had them all safe when the storm came on; and he afterwards found out that on the 17th, while he had been in Edinburgh, a number of the shepherds had met upon the hill-sides, and while some of them were congratulating themselves and the others upon the good weather which they had had for the past few days, some of the older and more experienced gave it as their decided opinion that before forty-eight hours they would have a very heavy snow-storm. On this opinion they all acted, and commenced collecting their sheep long before the barometer gave the slightest indication of the approaching change. These men were thus enabled, without any scientific apparatus, but simply by watching the aspect of the sky and the atmosphere, to foretel the extraordinary snow-storm of the present winter in sufficient time to save themselves and their flocks from the disastrous consequences to which they would otherwise have been exposed. He thought these natural observations ought to attract a much greater amount of attention than they had yet received, and as Dr Arthur Mitchell, as well as himself, were at present engaged in collecting such observations, for the purpose of being afterwards classified and systematised, he hoped that they would receive all possible assistance from their country friends in their inquiries. (Applause.) The chairman concluded by announcing that Professor Balfour had agreed, at the request of the Council, to read a paper before the Association.

Professor BALFOUR proceeded to read an interesting statement on the relations of Meteorology and Botany. After stating that this was a subject which had as yet received far too little attention from gardeners and may account for the damage done by the action of the frost on the overbent branches, particularly where a rupture was caused by the weight of snow. Irish yews 10 and 12 feet high had their tops bent so as to touch the ground. When freed of their load they soon assumed their original upright form, which would not have been the case had they been long held in a bent position. On the morning of the 23d December, the thermometer indicated 25 degrees Fahrenheit. The day subsequently was clear and cold, and there was every appearance of a sharp frost. The following tables show the minimum temperature indicated every two hours by Adie's and Bryson's thermometers during the three nights referred to. The thermometers were each placed about four feet from the ground, and were freely exposed to the atmosphere :—

MR ADIE'S THERMOMETER.

	Dec. 23. Deg.	Dec. 24. Deg.	Dec. 25. Deg.
4 P.M.	13	9	7
6 "	10	4	3
8 "	8	3	0
10 "	6	3	—2
12 Midnight, . .	3	3	3
2 A.M., ...	3	3	9
4 "	3	3	12
6 "	3	3	3
8 "	—2	3·5	—2
10 "	—5	2·5	—2

MR BRYSON'S THERMOMETER.

	Dec. 23. Deg.	Dec. 24. Deg.	Dec. 25. Deg.
4 P.M.	10	6	4
6 "	7	4	0
8 "	5	0	—3
10 "	3	0	—5
12 Midnight, . . .	0	0	0
2 A.M.	0	0	3
4 "	0	0	9
6 "	0	0	0
8 "	—5	0·5	—5
10 "	—8	—5	—5

Professor Balfour explained that it had been found necessary to apply a correction to the indications of very low temperatures on both thermometers in order to bring them to the Kew standard. It was found that below zero Adie's thermometer indicated 1 deg. too high, while Bryson's indicated 2 deg. too low. After rectification, the lowest temperature indicated in the Botanic Gardens—namely, that which occurred at ten A.M. on Monday the 24th December—was, according to the Kew standard, 6 deg. below zero. After the intense frost gave way (continued Mr M'Nab) we, fortunately for vegetation, experienced rather dull weather, with comparatively few glimpses of sunshine. The damage done to vegetation, however, is very great, and is daily becoming more observable; but months must elapse before we shall be able to detail the entire loss. The first plants on which the effects of the frost became visible were the *Acuba japonica*, and the several varieties of *Laurustinus*. The leaves of the former (specimens of which, as well as leaves and branches of several other shrubs, were exhibited by Professor Balfour) became totally black, with the exception of those which were covered with snow round the bottom of the plants, while the leaves of the *Laurustinus* became brown. During the thaw the latter emitted a very strong and disagreeable cat-like odour—the smell not being perceptible so long as they remained in the frozen condition. The next shrubs which showed the effects of the frost were the bay or cherry laurel, the Portugal laurel, and the *Laurus nobilis*, or Sinus bay. The last seems to be entirely destroyed, the centres of the young shoots being quite brown. The bay laurels in all situations and exposures have a uniform brown hue; the Portugal laurels, in some situations, have all their leaves perfectly black, while in other situations portions only of large plants were in this condition. After mentioning a number of other shrubs and plants—particularly hollies, rhododendrons, evergreen oaks, and several of the coniferæ—which had all suffered more or less injury, the statement went on to say—Another peculiarity observable during the late frosts was the splitting of the wood and bark of several shrubs and trees. Some of the Portugal laurels had rents fully half-an-inch wide, extending from eight to ten feet along their stems, but when the thaw took place, the fissures instantly closed. Similar splittings were observed in the stems of the American lime, sweet chesnuts, walnuts, and sycamores. Professor Balfour entered into some interesting details regarding these frost-splittings, which, he said, had received special attention from Dr Robert Carfray and others. After some remarks upon the effects of previous frosts upon the trees and plants in the Botanic Garden, Mr M'Nab's paper closed with the following table showing the minimum temperature indicated by Bryson's thermometer (rectified as formerly explained), during the nights from the 14th December 1860 to the 14th January 1861, both inclusive :—

	Deg.		Deg.
December 14	29	December 30	25
" 15	30	" 31	32
" 16	33	January 1	32
" 17	31	" 2	20
" 18	30	" 3	15
" 19	27	" 4	8
" 20	28	" 5	8
" 21	24	" 6	16
" 22	18	" 7	19
" 23	25	" 8	5½
" 24	—6	" 9	18
" 25	1½	" 10	32
" 26	—3	" 11	30
" 27	5	" 12	36
" 28	4	" 13	28
" 29	14	" 14	25

The CHAIRMAN proposed a vote of thanks to Professor Balfour for the exceedingly interesting information which he had laid before the meeting, and expressed a hope that the learned Professor would allow it to be given to them in a more permanent shape. (Applause.) (Hear, hear.) He also begged to announce that at the Council meeting held that morning the Council had resolved that the Meteorological Secretary should proceed to investigate into the effects of the recent frost over Scotland. (Applause.) He hoped that persons who had observed anything peculiar in their various localities would communicate with the secretary, Mr Buchan. He had found that all parts of the country had been affected more or less by that cold, but not in anything like an equal degree. Low-lying parts of the country seemed to have experienced the cold in considerably greater intensity than the more elevated districts. In East-Lothian, their two lowest stations—Smeaton and East-Linton—had temperatures down to —5° and —6°, while at the most elevated—Yester and Thurston—the thermometer never fell below zero. The same principle was shown in an equally or even more remarkable way in Dumfrie-shire. In the lower parts of the county, the thermometers went below zero; but at the Wanlockhead station, which was 1333 feet above the level of the sea, the lowest marking was *plus* 6. That seemed to corroborate what Professor Balfour had stated, that, within certain limits, at night, the higher the station, the higher the temperature. The greatest degree of cold observed throughout the whole kingdom had as usual been at Nottingham, which both lay low and was far from the sea. The lowest temperature observed there was 8·3 deg. below zero four feet above the ground, and 13·8 deg. below zero upon the grass; and in that county on Christmas Day a cart-horse had been seen on the road with icicles three inches in length, and as thick as a man's three fingers, hanging at his nose. (Laughter.)

On the motion of Sir JOHN FORBES, a vote of thanks was passed to the Marquis of Tweeddale for presiding, and the meeting terminated.

METEOROLOGICAL OBSERVATIONS.

(*Extract from Registrar-General's Meteorological Report for December* 1860.)

The meteorological returns for six of the principal towns in Scotland, reduced and corrected, as heretofore, for instrumental errors only, give, for their mean position—*i.e.*, lat. 56° 12′ N., long 3° 44′ W., and height 140 feet above the sea-level, in the month of December 1860 :—Mean barometric pressure, 29·712 inches, lower than the average for the same month in 1856-7-8-9 by 0·061 inch; barometric monthly range, 1·449 inch, less by 0·105 inch; thermometer, highest in month, 50°·0, lower by 4°·0; thermometer, lowest in month, 3°·9, lower by 18°·3; mean temperature, 34°·4, lower by 6°·0; mean daily range of temperature, 9°·8, greater by 1°·0; mean humidity, 88, greater by 3; rain and snow, number of days, 16, the same as the average; rain, and snow reduced to rain, depth in inches, 3·52, less by 0·91; wind, pressure on square foot, 1·00 lb., less by 1·36 lb.; wind, direction of, E. to W. as 8 to 5, and N. to S. as 4 to 6; the average of former years being, E. to W. as 3 to 12, and N. to S. as 4 to 9.

Hence we may deduce that the month of December 1860 has been nearly normal in mean barometric pressure, and with a small amount of barometric range; but that it has been most marked by abnormally low temperatures. The mean temperature being 6°·0 below the average, and 0°·5 below the same month in 1859, the

(8) (11)

The CHAIRMAN then said there were a number of persons throughout the country to whom—though they never appeared at the meetings of the Association, and were only heard of by the secretary producing their observations—all the members of the Society were under very great obligations. He referred to the observers at their various stations throughout the country, and begged to move that the thanks of the Society be given to them for their valuable and gratuitous services. (Applause.)

Mr MILNE HOME begged, on the part of the Council, to express their obligations to Professor Balfour for the interesting paper which, at their request, he had prepared and read; and he trusted that the suggestion of the noble President would be acceded to, and that this paper would be placed in the hands of the Council in order to be printed, and the valuable information which it contained disseminated throughout the country.

coldest December recorded up to that period. The lowest thermometers for the month (for all the stations) has been as low as 3°·9; and at individual stations it has been —3°·0 at Glasgow, and — 5°·0 at Paisley. The most moderate of the low temperatures was felt at Greenock, = 11°·0; and at Edinburgh, = 11°·3.

The mean humidity has been large, 3· greater than the average, and 1· greater than any other month in the year 1860.

The amount of wind has been less than half the usual quantity, and its direction chiefly SE.; showing a remarkable defalcation in the western element as compared with the average.

The mean amount of rain and snow, reduced to its equivalent of rain, has been rather less than the average, but still considerable in quantity. The greatest recorded quantity was at Aberdeen, = 5·60 inches, and the least = 1·25 inch, at Edinburgh.

Meeting of Council, held in the Society's Chambers, on 14th February 1861, at 2 P.M.—

Present— Mr Milne Home — in the Chair—
Mr Stephens—
Mr Johnston—
Mr Cunningham—
Mr James Leslie—
Mr Robert Leslie—
Professor Balfour—
Mr Richard Hunter—
Mr Core—
Major Hay—
Mr Miller—
Dr Seller—
The Meteorological Secretary—
The Treasurer—

The Minutes of last Meeting of the Council, held on 18th January last, were read, and found correct—

The Chairman drew attention to the subject mentioned in the Minutes of last Meeting as to be taken up in the next Quarterly Report, with relation to Notices of the late Frost; and he exhibited Tables in course of preparation by the Meteorological Secretary—

They

The Chairman, also, referred to uncertainty ex:pressed by some Parties who were desirous of competing for the Prize at present offered by The Marquis of Tweeddale, and suggested, in consequence, the expediency of prolonging the period during which Observations were to be made, and of making that period commence as from 1st. April next. Both suggestions were agreed to, and fresh Advertisements were directed to be forthwith inserted in the same Newspapers as were used for the original Advertise:ment. And Mr. Stephens submitted, on behalf of The Marquis of Tweeddale, a Set of Observations which His Lordship was desirous to have made by Parties competing for his Prize. These were considered by the Meeting, and approved, and adopted for circulation among the Society's own Observers, and others who might intimate their wish to compete. It was agreed that, in addition to the Newspapers above alluded to, the fresh Adver:tisement should be inserted, also, in Papers published in Glasgow, Perth, Aberdeen, Inverness, Wick, and Kelso, three times in each, and also in Dumfries and Ayr.

The Chairman mentioned that since last Meeting of Council he had been in correspondence with Admiral Fitzroy as to the telegraphing notice of expected Storms.

The Chairman further mentioned an Offer by Mr. Dennistoun Brown, of Balloch Castle, to establish, at his own expence, a Station at the point where the River Leven leaves Loch Lomond. This offer was accepted, on the footing of his defraying the whole expence, of Instruments, &c; and the Mete:orological Secretary was directed to intimate this acceptance.

acceptance to him, and to send him Schedules –

A conversation took place with regard to the Station at Taymouth, and the Chairman was requested, and agreed, to correspond with The Marquis of Breadalbane on the subject –

The Chairman agreed to correspond with Mr. Thomas Stevenson relative to a letter from Portree as to the future taking of Observations there –

The Treasurer was directed to have a Circular printed, for being sent to new Members of the Society, intimating their election, and requesting to know the amount of subscription they purpose paying – A Form for the Circular was submitted, and approved –

Dr. Scoresby Jackson was proposed, and admitted, a Member of the Society –

Mr. James Leslie undertook to communicate with Mr. Gale, as to Observers at Loch Venacher &c. –

Mr. Stephens, Mr. Johnston, Mr. Thomas Stevenson, and Mr. Cove, were appointed a Committee for preparing Notices, for the Newspapers, of the Proceedings of the Council, &c., from time to time – Mr. Stephens to be Convener –

Meeting of Council, in the Society's Chambers, on 15th. April 1861, at 2 P.M.

Present – Mr. Milne Home – in the Chair –
Mr. Stephens –
Dr. Seller –
Honble. Lord Currichill –
Major Hay –
Mr. Core –
Mr. Hope
Mr. Johnston –
Professor Balfour –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting, held on 14th. February last, were read, and found correct –

The Chairman stated that the chief matter to be considered by the Meeting was the revision of the proof of the Quarterly Report about to be issued, a Copy of which he had directed to be sent to each Member of the Council – He suggested some corrections, which were adopted, as was also a Dft. Minute of the Council which the Chairman had prepared – said Minute to be prefixed to the Quarterly Report –

× Seeß. –

The Chairman was requested to correspond with The Duke of Buccleuch as to the Instruments used at His Grace's Stations at Drumlanrig and Bowhill –

A Paper prepared by Mr. Walker, Castle Newe, was submitted by the Chairman – It was agreed that the subject treated in the Paper should

should be considered in preparing the next Quarterly Report (to 31st March) –

Major Hay presented to the Society several Reports on the Proceedings of the Officers engaged in the Magnetic Survey of India, and thanks were returned to him –

Mr Buchan was authorized to purchase a Copy of a Work on Meteorology by Dr Ernst Erhard Schmid, Professor at Jena –

The Schedule for the Marquis of Tweeddale's Prize was submitted by the Chairman, who mentioned that it had been revised by the Marquis of Tweeddale, Mr Stephens, Mr Johnston, and himself – It was approved by the Meeting –

Meeting of Council, held in the Society's Chambers, on 14th June 1861.

Present – Mr Milne Home – in the Chair –
Mr Stephens –
Mr Stevenson –
Dr Seller –
Major Hay –
Mr Cox –
Mr James Leslie –
Mr Robert Leslie –
Mr Cockburn –
The Meteorological Secretary –
The Treasurer –

They

6th June 1861 –

The Minutes of last Meeting, held on 10th April last, were read, and found correct –

The Chairman reported that new Instruments had been placed, by the Duke of Buccleuch, at Drumlanrig and Bowhill –

The Chairman directed attention to Tables which had been prepared by Mr Buchan, and other materials for the Quarterly Report about to be issued; and arrangements were agreed on as to the contents, and order, of the Report –

The Treasurer was directed to insert the Advertisement of the Half Yearly General Meeting in the Newspapers published in Edinburgh in the beginning of the week –

The Treasurer mentioned that the following Gentlemen had intimated a wish to join the Society, since the issue of the Circular prepared by the Committee appointed on 9th January last, viz. –

	Ann. Subs.
The Marquis of Breadalbane	£3. –. –
Revd. Lewis H. Irving, Falkirk	–. 10. –
Honble. Lord Neaves	1. –. –
Mr Robinson, Moray Place	1. –. –
Honble. Lord Cowan	1. –. –
Mr John H. Hope, South Elphinstone, Life Member Donation £5 –	
Mr Coventry, Advocate	1. –. –
Mr Chalmers of Aldbar	1. –. –
Mr Blair of Blair	1. –. –
Mr George Lorimer, Builder	1. –. –
Sir George Macpherson Grant, of Ballindalloch	1. –. –
Mr Robert Napier, West Shandon	1. –. –
Mr Scarth of Binscarth, Orkney	1. –. –
Mr Maxwell of Munches	1. –. –
Mr Scott of Rodono	1. –. –

Mr J

14th June 1861 -

Mr Thomson of Balgowan	£1. –. –
Mr Napier, Sheriff of Peebles Shire	1. –. –
Sir William Mackenzie, of Coul	1. –. –
Mr James Rome, Glasgow	–. 5. –
Mr Claud Muirhead, Heriot Row	1. –. –
Mr Hugh Hamilton, Seaview Cottage, Ayr	1. –. –
Mr James Stewart Forbes, Charter House, Wimbledon	1. –. –
Mr Edmonston of Buness, Shetland	1. –. –
Mr J. Miller, Leslie, Fife	–. 10. –
Mr Cameron of Lochiel	1. 1. –
Mr Smollett of Bonhill	1. –. –
Mr Maclean of Ardgour (son of the late Member)	1. 1. –
Mr Mackintosh of Geddes	1. 1. –
Mr W. J. Peebles, Garnet Hill, Glasgow	–. 5. –
Dr Rockcroft, Laverock Villas, Trinity	–. 5. –

and, on the motion of the Chairman, each was admitted a Member, accordingly -

The Treasurer submitted Forms of Circular which had been prepared - the one for his acknowledging receipt of the letters intimating a wish to join the Society; and the other intimating admission as Members -

The Chairman agreed to write to the President of the Society, expressing the Council's wish and hope for His Lordship's presence, and presiding, at the Half yearly General Meeting on Wednesday; and the Treasurer was directed to write to Sir John Stuart Forbes, the Vice President, to the same effect, and that he might preside in the event of the President's absence -

The cordial thanks of the Council were expressed to Mr Cochrane and the Committee for preparing and issuing the Circular for increasing the number of Members of the Society -

The

14th June 1861 –

The Treasurer mentioned the absence, on the Continent, of Mr Johnston, the Honorary Secretary and Auditor of the Society, and suggested the appointment of a Committee for the auditing of the Accounts for the past year. Mr Robert Leslie and Mr Cox were appointed as a Committee accordingly –

Mr Maclean of Ardgour and Mr Cameron of Lochiel having applied for the use of Instruments, it was agreed that such should be lent to them on the usual terms – the Instruments to be returned on demand – and Each Applicant to appoint a proper Observer, and to pay the Expence of the carriage of the Instruments – The Chairman agreed to correspond on the subject –

It was directed that a Circular should be issued to such Members of the Society as had not paid their subscriptions before, or in the course of, January yearly, reminding them of their Subscriptions being past due – and that the Notice heretofore given in the Quarterly Reports should be discontinued –

The Chairman mentioned his intention of noticing, at the General Meeting, a communication he had had from Admiral Fitzroy with regard to the telegraphing of approaching Storms, and other scientific matters –

Directions were given for having 100 Extra Copies of the Quarterly Reports printed, to be left in the hands of Messrs Veitch & Co. for sale, at sixpence per Copy – and for having a Copy of the Scotsman's Report of the coming Half yearly General Meeting sent to the Members of the Society with the next Quarterly Report –

EXTRACT FROM MINUTES OF COUNCIL OF THE SCOTTISH METEOROLOGICAL SOCIETY, HELD 11TH APRIL 1861.

MR BUCHAN laid before the Meeting his Report on the Cold Weather of last Christmas, being the subject specially remitted to him for investigation by the Council. He presented also translations of two foreign papers, on the law which regulates the temperature of the lower strata of the atmosphere during very cold winters, and also during night. These, he suggests, might be published along with his Report on the Christmas Cold, there being some points in that Report on which light is thrown by these foreign papers.

The Council approve of what Mr Buchan proposes to be published in the *Quarterly Report*.

Mr Gibson stated to the Council, that since the last General Meeting in January, the following nobleman and gentlemen had become members of the Society:—

	Annual Subscription.		
The Marquis of Breadalbane, . .	£3	0	0
Hon. Lord Neaves, ...	1	0	0
Hon. Lord Cowan, ...	1	0	0
Sir George Macpherson Grant of Ballindalloch, Bart., ...	1	0	0
William F. Blair, Esq. of Blair, .	1	0	0
Andrew Coventry, Esq., ...	1	0	0
Charles Chalmers, Esq. of Aldbar, .	1	0	0
Dr Scoresby Jackson, . . .	0	10	0
George Lorimer, Esq., Builder, .	1	0	0
Wellwood H. Maxwell, Esq. of Munshes,	£1	0	0
George Napier, Esq., Sheriff of Peebles-shire, ...	1	0	0
Robert Napier, Esq., Westshandon,	1	0	0
Adolph Robinow, Esq., . . .	1	0	0
Robert Scarth, Esq. of Binscarth, .	1	0	0
John Scott, Esq. of Rodono, . .	1	0	0
William Thomson, Esq. of Balgowan,	1	0	0
John K. Hope, Esq., South Elphinston, Life Member, . .	£5	0	0

EXTRACT FROM MINUTE OF COUNCIL MEETING, 14TH JUNE 1861.

THE Council had laid before them several Tables, which Mr Buchan, in pursuance of the instructions given at the last meeting, had prepared on Atmospheric Pressure and Range, accompanied by a short explanatory statement.

These the Council authorize to be published in the next Quarterly Report, along with the following papers:—

1. Account of a Method of constructing the Siphon Barometer, to supersede Temperature Correction. By Mr Core, Lecturer, Normal School, Castle Hill, Edinburgh.
2. Account of Experiments with Cup Anemometer. By Mr Alexander Walker, Gardener at Castle Newe, one of the Society's Observers.
3. Letter on Ozone, addressed to Professor Piazzi Smyth, from Dr Smallwood, of Isle Jesus, Lower Canada.
4. Note of Weather Prognostics in Iceland.

The Council further direct, that slips from the newspaper report of the General Meeting of the Society, to be held next week, shall be distributed with the copies of the Quarterly Report.

Mr Gibson, the Honorary Treasurer, reported that since the last meeting of Council, the following new members had joined the Society:—

	Annual Subscription.		
Sir William Mackenzie of Coul, Bart.,	£1	0	0
Hugh Hamilton, Esq., Sundrum Cottage, Ayr, ...	1	0	0
Rev. Lewis H. Irving, Falkirk, .	0	10	0
James Stewart Forbes, Esq., Charterhouse, Wimbledon, . . .	1	0	0
Thomas Edmondstone, Esq., of Buness, Shetland, ...	1	0	0
Alexander M'Lean, Esq., Ardgour, .	1	1	0
D. Cameron, Esq., of Lochiel, . .	£1	1	0
Dr Roxburgh, Laverock Villa, Trinity,	0	5	0
Alexander Smollett, Esq., of Bonhill,	1	0	0
George Mackintosh, Esq., of Geddes,	1	1	0
Claude Muirhead, Esq., Heriot Row,	1	0	0
Mr James Rome, Glasgow, . .	0	5	0
Mr J. Miller, Leslie, ...	0	10	0
Mr W. J. Peebles, Glasgow, . .	0	5	0

Meeting of Council, held in the Museum of the Highland & Agricultural Society of Scotland, on 19th June 1861, at 1½ P.M. —

19th June 1861

Present — Mr Milne Home — in the Chair —
The Marquis of Tweeddale —
Mr Robert Leslie —
Mr Core —
Mr Hope —
Major Hay —
Dr Seller —
Mr Stephens —
Mr Richard Hunter —
Professor Balfour —
The Meteorological Secretary —
The Treasurer —

The Minutes of last Meeting, held on 14th curt., were read, and found correct —

The Treasurer reported his having received a letter from Sir John Stuart Forbes, expressing his regret of

regret that he would be unable to attend the Half yearly Meeting –

The Chairman mentioned that he had called this Meeting lest any thing might have occurred that required the attention of the Council pre:viously to the Meeting of the Society – and the Treasurer stated that he had arranged for the attendance, at the General Meeting, of the Reporters for the Courant and other Newspapers –

Messrs Robert Leslie and Core submitted the Treasurer's Accounts for the last year, with their docquet appended –

(1)

THE METEOROLOGICAL SOCIETY OF SCOTLAND.

From E. E. Courant of 21 June 1861 –

(3)

The half-yearly meeting of the Meteorological Society of Scotland was held on Wednesday in the Highland and Agricultural Society's Museum, George IV. Bridge—the Marquis of Tweeddale in the chair.

There were present, among others—Mr David Milne Home of Wedderburn; Mr Henry Stephens; Major Hay, Linden Lodge; Mr George Hope, Fenton Barns; Professor Balfour; Professor Allman; Dr Seller; Mr Richard Hunter; Mr James Anderson, S.S.C.; Mr Peter M'Lagan of Pumpherston; Mr Paterson, Meadowfield; Mr Wilson, Wester Cowden; Mr Buchan, Meteorological Secretary; Mr Gibson, Honorary Treasurer, &c.

Mr Archibald Gibson read the report of the Council, which was as follows:—In reporting what has occurred in the proceedings of the Society since the last half-yearly meeting in January, the Council are happy to be able to say, in the first place, that the monthly returns have come in from the Society's stations—fifty-four in number—with the same regularity as formerly. The meteorological secretary, Mr Buchan, has been very attentive in his examination of the returns, with the view of testing their correctness before delivering them to Professor Piazzi Smyth for reduction; and he informs the Council that there are only a few stations, the returns from which have shown inaccuracy, and that in these cases he has, without much trouble, had the errors rectified. In the majority of cases the errors arise, not in the observation of the instruments, but in copying the schedule which is transmitted to Edinburgh. In several instances a representation having been made by the Council that instruments of a better description ought to be procured, the request has been readily acceded to by the proprietors on whose estates the stations were established. Since the last general meeting one quarterly report has been issued, being for the three months ending 1st January 1861. Another report, viz., for the three months ending 1st April last, is now ready, and will be immediately circulated. The Council entertain a hope that members will notice a marked improvement in the character of these quarterly reports. Hitherto, the reports have contained only tables of dry figures, giving the results of observations at the stations. But in the recent reports, besides these tables, there will be found information of a more varied character, and of much interest. In particular, the Council may refer to a very able paper by Mr Buchan, being the first drawn up by him after his appointment to the office of meteorological secretary, on the subject of the intense frost which prevailed in this country during last Christ- ing more widely meteorological intelligence, would also make known more widely the objects and proceedings of the Society. The Council have approved of the suggestion, and made arrangement for carrying it out. Some correspondence has taken place with Rear-Admiral Fitzroy, who is at the head of the meteorological department of the Board of Trade, with reference to a daily bulletin of the weather on the Continent. Members are no doubt aware of the fact that there is now published in several of the London daily newspapers an account of the state of the weather at a considerable number of sea-ports, as observed at 9 A.M. on the day of publication. The Continental bulletins are transmitted every morning from the Paris Observatory to Admiral Fitzroy's office; and Admiral Fitzroy then despatches them, with the addition of a few from different ports in our own country, to the London papers published the same afternoon. These daily bulletins embrace, however, no returns from the sea-ports in the north of Europe; and as a very large trade is carried on between this country and other sea-ports in these quarters—as Hamburg, Bremen, Rotterdam, Riga, Copenhagen, and St Petersburg—the Council were informed that it would be a great boon to ship-owners as well as to ship captains in Scotland and England to have a daily bulletin of the weather also from such quarters. The Council accordingly applied to Admiral Fitzroy, with the view of having this information given. He replied that he would do his best endeavour to carry out the suggestion; but that it might be some time before the necessary arrangements could be made, and the expense of telegraphic transmission be provided for. The Council have recently had a letter from Admiral Fitzroy stating that an arrangement has now been made for obtaining daily weather bulletins from St Petersburg. The Council take this opportunity of stating that Admiral Fitzroy has on every occasion been most attentive to any communications made to him by the Council. The Council are happy to point to one proof of the increasing appreciation of the Society's objects and proceedings, in the fact that, since the last general meeting in January, thirty new members have been added to the roll. As it is to the summer general meeting that the accounts of the Society have always hitherto been reported, the Council have examined these accounts as kept by Mr Gibson, the honorary treasurer, and have compared them with the vouchers, and found them correct. At the last general meeting, it was remitted to the Council to consider whether there might not be amendments of some of the Society's rules and regu-

19th June 1861-

mas. The Council will make an endeavour to have all future reports drawn out so as to contain short papers and notices of miscellaneous interest, and they take this opportunity of saying that they will gladly receive, from either members or observers, communications for insertion in the reports. They have had much pleasure in authorising the insertion in the forthcoming quarterly report of an account of experiments with the anemometer by the gardener at Castle Newe, Aberdeenshire, one of the Society's most assiduous observers. It has been suggested to the Council that, considering the improved character of these reports, they might be offered to the public for sale; which, besides having the effect of diffus-

(4) lations. The Council, after carefully considering these have no alterations to suggest; but they have drawn up a few bye-laws, to give directions in some matters apparently not embraced by the original rules and regulations, and which they think the meeting should sanction. They suggest, that these rules and bye-laws, as well as a list of the members of the Society, should be printed, and copies circulated with the next quarterly report.

The new members were as follow:—The Marquis of Breadalbane; Lord Neaves; Lord Cowan; Sir George Macpherson Grant, of Ballindalloch, Bart.; Rev. Lewis Hay Irving, Falkirk; Sir William Mackenzie of Coul, Bart.; Mr Adolph Robinow,

Moray Place; Mr John H. Hope, South Elphingston; Mr Andrew Coventry, advocate; Mr John J. Chalmers of Aldbar; Mr William F. Blair of Blair; Mr George Lorimer, builder; Mr Robert Napier, West Shandon; Mr Robert Scarth of Binscarth, Orkney; Mr Wellwood H. Maxwell of Munches; Mr John Scott of Rodono; Mr William Thomson of Balgowan; Mr George Napier, Sheriff of Peeblesshire; Mr James Rome, Glasgow; Mr Claud Muirhead, Heriot Row; Mr Hugh Hamilton, Sundrum Cottage, Ayr; Mr James Stewart Forbes, Charter House, Wimbledon; Mr Thomas Edmondston of Buness, Shetland; Mr A. Cameron of Lochiel; Mr Alexander Maclean of Ardgour; Mr Alexander Smollet of Bonhill; Mr George Mackintosh of Geddes; Mr J. Miller, Leslie; Mr W. J. Peebles, Glasgow; Dr Roxburgh, Laverock Villas, Trinity.

Mr MACLAGAN of Pumpherston said he was sure that the gentlemen present must be gratified at the exceedingly satisfactory report which had just been read. They were all very much indebted to Mr Milne Home for the part which he took in getting up the report, and those who were in the habit of getting the quarterly returns must be exceedingly gratified at the able manner in which they were drawn up, and at the very satisfactory position which the Society had taken up throughout the country. He only regretted that the applications for membership had not been more numerous. He was sure if the gentlemen with whom he came more immediately into contact—namely, the agricultural interest—would only consider the great benefit such a Society would be to them, they would come forward and support it, not only by their presence, but by their means. He said he had much pleasure in moving the adoption of the report. (Applause.)

Mr DAVID MILNE HOME of Wedderburn said that assuming the report to be approved of by the meeting, he might be allowed to express his thanks on the part of the Council of the Society. At the same time, he felt that this report referred merely to the proceedings of the last six months, and he believed that many members had been asking the question, not what the Council of the Society had been doing during the last six months, but what the Society had been doing during the last four or five years of its existence. That was a very proper question to be put to the Council; and he now rose not to give a full answer to that question, for he did not feel himself more qualified than others to do so; but occupying the position which he had the honour to hold as Chairman of the Council of this Society, it might be supposed that he had better access to sources of information than other members; and he was prepared now to make a few observations as to what had been done by the Society for carrying out the objects for which it had been established. He had no doubt that most of the gentlemen present, and many who were absent, must have a desire to see these objects, if not carried out, at least some progress made towards the fulfilment of them, and he therefore begged leave to refer to the proceedings of the Society, and to the results which had been obtained during the last four or five years. The objects for which the Society was established were—first, to investigate Scottish meteorology, and for that purpose to ascertain the leading features of the climate of Scotland in its different districts; secondly, to show the bearings of the results on particular points, such as health, agriculture, and with a view to lead to a knowledge of coming weather; and thirdly, to disseminate meteorological information. The last-mentioned object the Council had regularly carried out, as they had 54 stations in different parts of the country where observations were regularly made, and from which monthly reports were regularly received; and the Council were doing what they could to increase the number of stations. Then, as to the investigation of

(6) the subject of Scottish meteorology, and particularly the ascertainment of the leading features of the climate of our own country in the different districts, they were aware how much had been done. With regard to barometric pressure, they all felt that this had not very much to do with climate directly, at least not so much as temperature, rain, and winds. Accordingly the Society took up these three points in the first instance. From the reports made it would be observed that the temperature at all the stations had been investigated—the temperature for the year, the month, and the extreme of temperature—namely, the highest and lowest point to which the thermometer fell—and in that way they had been able to eliminate one of those subordinate points—the peculiarities that existed in the climate of our own country. One of the points that were brought out in the tables of temperature was that, during the winter especially, the north and north-west parts of Scotland were warmer than the south of Scotland or even England. He had observed in the last report of the Registrar-General—a book presented to the Home Secretary, and laid before Parliament a month or two ago—a very remarkable statement to the effect that pulmonary consumption prevailed less in the west of Scotland than in any other part of Great Britain, and he presumed that the reason was one of a meteorological nature—namely, that during the winter season, when of course patients under that disease suffered most, a higher temperature was to be found on the north-west coasts—on the coasts of Argyleshire—than in any other part of the country. With regard to the temperature, he had to call attention to a very interesting report drawn out by the Secretary in regard to the extreme cold that prevailed in Great Britain during the last Christmas week, and one peculiarity that came out was that places on a high level were much warmer, or at least they did not suffer the same extremes of cold as places on a low level. On one occasion at Wanlockhead, which was 1300 feet above the level of the sea, the thermometer was six degrees above zero; while at Drumlanrig, which was 200 feet above the sea, the temperature was one degree below zero. In East Lothian, at his Lordship's station at Yester, the thermometer did not fall below zero; while at Linton, a few miles off, it fell five degrees below zero. These observations were also illustrated by reference to what took place in other parts of the country. While all along the banks of the Tweed and Clyde there had been great destruction in gardens and shrubberies, on the higher parts of the country, such as at Yester and Spottiswoode, which was 800 feet above the level of the sea, not an evergreen had been destroyed. Dr Starke in very able papers had shown that the rate of mortality increased with increased cold, and it was therefore not necessary for him to make any further reference as to the bearing of these observations on health. As to rain, they found the average amount of rain which fell in the different parts of Scotland, and they had also investigated this subject by the aid of a prize offered by his Lordship for an essay on rainfall. From the essays that had been sent in it appeared that the notion which had prevailed for some time, that the extensive drainage that had taken place in the country must have lessened the amount of rain, turned out not to be well founded. Although the last four or five seasons had been remarkable for dryness, yet, looking back for thirty or forty years, it was found that, on the whole, the average quantity of rain was not less now than in former days. Then as to the question of winds the Society knew exactly from the returns made to them at what month of the year different winds were most prevalent, and in what parts of the country they were. The tables showed the prevalence of the two great currents which flowed from

(7) the pole to the equator, and that all the rest were merely modifications. While we had 190 days of a south-west wind, we had only 90 days of a north-east wind. There was a very important point which had been contemplated by the Society at its commencement — namely, to investigate the general laws regulating atmospheric changes, and which if understood might lead to a knowledge of the coming weather. Accordingly the Council now proposed to direct the attention of their Secretary to that department—the most difficult and the most important one that he could be engaged in. This would necessarily be a work of considerable labour, and the Society must not expect results of a very important character in too short a time on such a subject. The investigations must embrace the whole of the earth's atmosphere in all parts of the world, and the observations must be made not only on land but also on ocean, which formed two-thirds of the surface of the globe. Any investigations in Scotland alone would be but a small contribution to the general stock of knowledge required on so very large a subject; and it was only by multiplying observations in all parts of the world, and combining or comparing these, that the laws which regulated the movements of the atmosphere could be discovered.

(9) fishermen resorted to with great success until more progress should be made in the science. It was right to notice that Admiral Fitzroy had lately been attempting to give predictions of the weather, particularly in regard to gales, which was a great step in advance of what had hitherto been attempted. Signals had been sent to all the outports to give warning to ships when a storm was likely to come on, and the result had been that of the nine warnings which had already been given in every case a storm had followed, and in one of them the Admiral was only wrong as to the direction from which the storm came. He understood that at the port of Shields a great many colliers on one occasion thought that the warning was nonsense, and persisted in going to sea; and the result was that a storm followed, two or three of the ships foundered, and a great many were damaged. On another occasion the harbour-masters of Liverpool complained that in consequence of a warning that had been given, the harbour was overcrowded with ships, but a severe storm immediately followed, and the vessels lying in the port, that would have otherwise suffered, escaped injury. One of the most practical meteorologists of the day—Commodore Maury, of the United States—had so thoroughly approved of the experiments made by Admiral Fitz-

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The difficulty of predicting the weather arose from this circumstance, that unless we knew of the atmospheric changes which took place as to the generation of winds and vapours, and so forth, in other parts of the world, it was impossible to say what changes were to take place here. The changes of the weather in Scotland, or in any particular country, might be compared to the floods, which he saw occasionally near the mouth of the Tweed. He often saw floods coming down, although not a drop of rain had fallen in that district, and it was impossible for the people there to anticipate when these floods were likely to come, unless they knew the sort of weather prevailing in the higher districts from which the Tweed came—in the Lammermuir, Cheviot, Selkirkshire, and Peeblesshire Hills. In the same way, rain which fell in Scotland could not be predicted unless we knew what was going on in the great oceans of the Atlantic and the Mediterranean, from which vapours arose and were condensed. He then proceeded to make some remarks as to temperature, and said that, as much of our climate depended on the movements and directions of the gulf stream, if we had the means of ascertaining its change of direction, we could then predict probably whether our winter would be cold or mild. From these remarks, it was evident that the field of observation was very extensive, and the problem complicated, to calculate the operation of the various laws which governed and regulated the movements of the atmosphere. He thought that meteorology stood at the present day very much in the position that astronomy did a great many years ago, before the exact law that regulated the movements of the planets was ascertained. As to our forefathers' knowledge of these matters, they only inferred that what had happened before would most possibly happen in the future; but they knew not why the sun was always highest in summer, and lowest in winter; why the moon shone full and round every month, and was sharp and obscured at other times; why Venus was a morning star at one time, and an evening star at another time of the year, till Newton demonstrated the one great law by which all was regulated. We had yet made little or no progress in ascertaining the laws which regulated the movements of the atmosphere, or rather in calculating how these acted and reacted on each other; and in the meantime we might form estimates of the coming weather from experience and observation, and observe those natural signs of the weather which our shepherds and

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roy that in the month of April last he addressed an official letter to the Government Secretary at Washington, desiring to be authorised to send signals to the seaports and also to the lighthouses, which is a step in advance of the plan of Admiral Fitzroy. The Admiral was enabled to give these signals by an extensive ramification of stations, from which returns were received by the electric wires. He received everyday returns from ten or twelve places in the Continent and from different places in Great Britain; and by looking at the state of the barometer he was able to infer in what direction the approaching storm was likely to move. It had been well established that all the storms followed a regular track, and if we could find the place where a storm generated it would be easy to know which track it was likely to follow. In America there was a far wider field for meteorological observation than in this country. The Smithsonian Institute had established no fewer than 300 stations, from which quarterly returns were made, and it received daily returns from fifty or sixty places in all parts of the United States. There was hung up in the public library of Washington a map on which these stations were marked, and on which the state of the weather, the direction of the wind, and so forth, were indicated; so that those who wished to know the state of the weather at any of these places had only to go and consult the map. Colonel Sir Henry James, a member of our Society, who took part in a great conference that was held in Brussels some years ago, when sea observations were agreed to by several nations, was now endeavouring to get a conference held in regard to land observations; and it would be for the Society to say whether that gentleman might not be requested to represent them at such a conference as that now proposed to be held. After some further remarks, Mr Home concluded by expressing the hope that the Society would obtain the necessary public support in order to enable it to carry out more fully than hitherto its important objects.

The Marquis of TWEEDDALE said he was sure the Society were much indebted to Mr Milne Home for the interesting statements he had made. He would only allude to one or two of them. It had been often asked at him what this Society was doing, and what the members got in return for the money which they gave to it. All he had to answer to those gentlemen who put such questions was just this, that if they would give themselves the trouble that Mr Milne Home did to gain such a mass

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of information as he had given to-day they would have something to talk of and think of till next year at the anniversary of this meeting. As to the mildness of the climate in the west of Scotland, it seemed to him a most extraordinary thing, that though we had people going to the Continent and Madeira, and all parts of the world for the benefit of their health, this was the first time that we had heard that, if people would be contented to go to the western coast of Scotland, the climate would be more suitable for those suffering from pulmonary consumption than other parts of the world. They all knew how inconvenient it was for people to go to other parts of the world, and he thought that Dr Seller might explain how they did not rather stay at home and take advantage of the mild climate in the west of Scotland. After some remarks on the effect of the gulf stream on climate, he said that this being a practical Society, they ought to have a basis to go upon; and as long as the principles of the climate were not understood, they had not gained the object they had in view. With regard to the effects of last winter on the country, Mr Home had stated what he had strong reason to believe that low places had suffered more than higher grounds. He had observed on one occasion during the winter,

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that while there was frost at Haddington there was none at Yester, which was 250 feet higher. As to Colonel James' recommendation to have a conference, he thought it was the duty of the Society to give an immediate answer in regard to the matter, because it was evident that before they accomplished all that was necessary, they would require to appeal to Government, particularly in regard to the question of ascertaining the temperature of the sea, and he thought that any recommendation coming from the Government should be attended to without delay.

Dr SELLER said, with reference to the mildness of the climate in the west of Scotland, that though it was true that much attention had not been given to that subject for some years, yet they all knew that medical men had approved of Rothesay as a very suitable place for invalids, and it had been largely taken advantage of. With respect to other places on the western coasts of Scotland, attention had been drawn to them, but there was always the great difficulty in the way—namely, the want of proper accommodation and other necessaries for patients, which were just as requisite as a change of climate.

The proceedings then terminated with a vote of thanks to the Chairman.

Edinburgh, June 20, 1861.

List of Office-Bearers of the Scottish Meteorological Society.

JUNE 1861.

PRESIDENT.

The Most Noble the MARQUIS of TWEEDDALE.

VICE-PRESIDENT.

Sir JOHN STUART FORBES, of Pitsligo, Bart.

COUNCIL.

The Hon. Lord CURRIEHILL, one of the Senators of the College of Justice.
JOHN COCKBURN, Esq., F.R.S.E., Edinburgh.
DAVID MILNE HOME, Esq. of Wedderburn, F.R.S.E.
JOHN MILLER, Esq. of Leithen, F.R.S.E.
ARTHUR MITCHELL, Esq., M.D., Deputy Commissioner in Lunacy.
HENRY STEPHENS, Esq., F.R.S.E., Redbraes Cottage, Edinburgh.
WILLIAM SELLER, Esq., M.D., F.R.S.E., Edinburgh.
THOMAS STEVENSON, Esq., C.E., F.R.S.E., Edinburgh.
RICHARD HUNTER, Esq., 10, Ainslie Place, Edinburgh.
JAMES CUNNINGHAM, Esq., 50, Queen Street, Edinburgh.
JAMES LESLIE, Esq., C.E., Edinburgh.
GEORGE HOPE, Esq., Fenton Barns, East Lothian.
J. H. BALFOUR, Esq., Professor of Botany, University of Edinburgh, F.R.S.E.
Major HAY, Linden Lodge, Loanhead.
ROBERT LESLIE, Esq., 72, George Street.
Mr THOMAS K. CORE, Lecturer on Science, Edinburgh.

DAVID MILNE HOME, Esq., Convener of Council.

METEOROLOGICAL SECRETARY.

Mr ALEXANDER BUCHAN, the Society's Chambers, 10, St Andrew Square, Edinburgh.

HONORARY SECRETARY.

ALEXANDER KEITH JOHNSTON, Esq., 4, St Andrew Square, Edinburgh.

HONORARY TREASURER.

ARCHIBALD GIBSON, Esq., C.A., 10, Maitland Street, Edinburgh.

19th June 1861 –

LAWS AND REGULATIONS OF THE METEOROLOGICAL SOCIETY.

I. OBJECTS OF THE SOCIETY.

1. The primary object will be to investigate Scottish Meteorology; and for that purpose to ascertain the leading features of the Climate of different Districts, into which Scotland may be divided.

2. Among subordinate objects, the following may be enumerated:—To point out the bearings of Meteorology—

(1.) On Public Health, and on the appearance and spread of Epidemics.

(2.) On Agriculture and Horticulture, and on the appearance and spread of diseases affecting Crops and Live Stock.

(3.) To investigate the origin, movement, and (alleged periodical) recurrence of wind storms, occurring in Scotland.

(4.) To point out the differences between the Climate of Scotland and that of other countries, with a view to the introduction into Scotland of exotic plants, suitable to its climate.

(5.) To ascertain the causes of the peculiar Climate of Scotland during Summer, as well as Winter.

(6.) To investigate the general laws regulating atmospheric changes, and the discovery of which may lead to a knowledge of the coming Weather.

3. It will also be a primary object of the Society, by the circulation and publication of Reports, to disseminate Meteorological information and encourage a taste for observation.

II. OPERATIONS OF THE SOCIETY.

1. Stations in various parts of Scotland, including the Islands along the coast, will be selected for observations. These indications will be registered on schedules to be supplied by the Society, and transmitted monthly to an office in Edinburgh.

2. The Monthly Returns from the stations will, so soon as received at the office, be transmitted to the Observatory on the Calton Hill, in pursuance of arrangements with Her Majesty's Government, in order that the observations in these Returns may be corrected and reduced by the Astronomer-Royal for Scotland, and that an Abstract of them may be made out by him for the Registrar-General, who will publish this Abstract with his Tables of Deaths and Diseases. Thereafter, the Monthly Returns from the Society's stations, with the corrections and reductions made thereon, will be at the command of the Society, and be available to its Office-Bearers for the Society's own purposes.

3. The observations at the stations will be made use of by the Meteorological Society, for the purpose of ascertaining the leading features of the Climate of Scotland generally, and of its several divisions, as well as of working out the other objects of the Society before enumerated.

4. Quarterly Reports will be drawn out, under the directions and superintendence of the Council, showing the operations of the Society, and containing useful Meteorological Information, which will be circulated among the Members and sold to the Public.

5. There will be an office, where the Society's Standard Meteorological Instruments will be kept for comparison, as well as the Society's Reports and Returns; and where the Secretary will be in attendance, at stated times, to give information.

III. CONSTITUTION AND MANAGEMENT OF THE SOCIETY.

1. The Society will consist of Annual Subscribers of 5s. and upwards, each year's Subscription being payable in January for the year commencing with the previous July. The following are the privileges of Members:—

(1.) To receive, gratis, the Quarterly Reports and copies of all other papers printed at the expense of the Society.

(2.) To obtain, through the Society, good Instruments at a cheaper rate than can be procured otherwise.

(3.) To have their Instruments compared with the Society's Standards, and to have their differences recorded.

(4.) To communicate with the Society's Meteorological Secretary, personally or by letter, on Meteorological subjects.

2. The Management of the Society will be vested in the following Office-Bearers:—

(1.) A President and Vice-President, to hold office for two years.

A Council, consisting of not more than fifteen Subscribers, one-fifth of whom to go out of office yearly by rotation:—the Ballot being used to determine those who go out, if it is not otherwise arranged.

A Meteorological Secretary, to be paid for his services.

A General Secretary.

A Treasurer.

(2.) It will be the duty of the Council to manage the whole business of the Society, but in strict subordination to the Laws and Regulations, and to any Resolutions passed by General Meetings of Subscribers. They will also, on behalf of the Subscribers, provide an Office—decide on the Stations where observations are to be made—fix the Salaries of the Meteorological Secretary, and the clerk or clerks to be employed by the General Secretary and Treasurer,—and direct how the Meteorological Secretary is to be employed in carrying out the objects of the Society. The Council will hold Quarterly Meetings. Five will form a Quorum. They may appoint Committees to assist them.

It will be the duty of the Meteorological Secretary, under the superintendence of the Council, to correspond with the observers at the Society's stations, so as to ensure correctness and punctuality, and to visit any particular station at the expense of the Society, when authorized by the Council to do so;—to transmit to the Astronomer-Royal of Scotland the Monthly Schedules whenever received from the Stations;—to attend in the Society's office, every day (except Saturday and Sunday), between the hours of 11 and 3 o'clock;—to take charge of the Society's Standard Instruments and any Returns or Records which may be entrusted to him;—to draw up and circulate the Quarterly Reports, and work out the objects of the Society generally, under the directions of the Council.

It will be the duty of the General Secretary (who may have a paid clerk to assist him) to convene Meetings, when required to do so;—to keep the Minute Books;—prepare Financial Statements, and conduct correspondence.

It will be the duty of the Treasurer (who may have a paid clerk to assist him) to collect Subscriptions, pay accounts, etc.

3. There will be two General Meetings of Subscribers in the year, the one in January and the other in June, and on a day to be fixed and notified by the Council. At each of these Meetings, a Report will be presented from the Council, explaining what has been done during the preceding six months towards carrying out the objects of the Society: and in the event of any change of Office-Bearers, suggesting the names of Subscribers suitable and willing to act.

19th June 1861 -

BYE-LAWS OF THE METEOROLOGICAL SOCIETY SUBMITTED TO GENERAL MEETING, 19TH JUNE 1861.

I. ADMISSION OF MEMBERS.

1. Applications for admission shall be made in writing, either by the party wishing to become a Member, or by a friend on his behalf;—which applications shall be addressed to the Secretary or the Treasurer.

2. These applications shall be laid before the Council, at any meeting; and the Council shall have power to admit the party applying to be a Member of the Society.

3. After a party has been so admitted, notice of his admission shall be sent to him by the Treasurer, with a request that he would signify the amount of his yearly subscription, and explain through what channel it will be paid.

II. PAYMENT OF SUBSCRIPTION.

1. On the 1st January notices shall be sent to all Members, requesting them to pay their Subscriptions for the year ending 1st June following; an abatement, however, being made from the Subscription of those Members who may have joined the Society since the 1st June of the previous year.

III. OFFICE-BEARERS.

1. The election of office-bearers will take place at the General Meeting held in January.

2. In the event of a vacancy occurring in the offices of General Secretary, or Meteorological Secretary or Treasurer, the Council are to have power to fill up the vacancy, on the condition, however, of reporting the election to the next General Meeting, which shall be entitled to annul the election, and to substitute another person.

IV. ACCOUNTS.

1. At the General Meeting to be held in June, the Report by the Council shall embrace a statement of the Society's Accounts,—specifying the amount of Subscriptions received, the arrears which may be due, and the manner in which the funds have been expended or disposed of.

VIII.

LIST OF MEMBERS OF THE SCOTTISH METEOROLOGICAL SOCIETY.

	Annual Subscriptions.
Adie, Richard, Esq., Liverpool,	L.2 2 0
Allman, Professor, 21, Manor Place, Edinburgh,	1 1 0
Anderson, J. A., Esq., Carlung, West Kilbride,	1 1 0
Anderson, James, Esq., S.S.C., 8, Dundas Street, Edinburgh,	0 5 0
Arbuthnot, George Clerk, Esq., Mavis Bank, Lasswade,	2 0 0
Baird, Rev. John, Manse of Yetholm, Kelso,	0 10 0
Balfour, D., Esq. of Balfour and Trenabie, Balfour Castle, Kirkwall,	1 1 0
Balfour, Professor J. H., 27, Inverleith Row, Edinburgh,	0 10 0
Bathgate, John, Esq., Union Bank of Scotland, Peebles,	0 10 0
Baikie, Dr, Kirkwall,	1 0 0
Bell, Thomas, Esq., 43, Melville Street, Edinburgh,	0 10 0
Belshes, Alexander Hepburn Murray, Esq. of Invermay, Bridge of Earn,	1 0 0
Belshes, Major-General John Murray, Invermay, Bridge of Earn,	1 0 0
Bethune, Admiral Charles, Balfour, Markinch,	1 1 0
Black, Alexander, Esq., Surveyor, Falkirk,	0 10 0
Blair, William F., Esq. of Blair,	1 0 0
Boyd, Andrew, Esq., Peterhead,	1 1 0
Breadalbane, The Most Noble the Marquis of,	3 0 0
Brand, William, Esq., W.S., Union Bank of Scotland, Edinburgh,	0 10 6
Brebner, James, Esq., 20, Aboyne Place, Aberdeen,	1 1 0
Brown, Robert, Esq. of Firth, Roslin,	1 1 0
Brown, W. H., Esq. of Ashley, near Ratho,	1 0 0
Brown, William, Esq., F.R.C.S.E., 25, Dublin Street, Edinburgh,	0 10 0
Bryce, James, Esq., LL.D., etc., High School, Glasgow,	0 10 6
Bryson, W. G., Esq., Cullen House, Cullen,	0 10 0
Brown, Alexander J. Dennistoune, Esq. of Balloch Castle,	1 0 0
Bryant, Dr, 7, Bathurst Street, Sussex Square, London,	1 0 0
Buccleuch, His Grace the Duke of,	5 5 0
Buddo, Mr, Surgeon, St Andrews,	0 5 0
Buchanan, Colonel David Carrick, of Drumpeller, Coatbridge,	1 0 0
Burnett, John J., Esq. of Gadgirth, Tarbolton,	1 0 0
Burns, J. W., Esq., Broomhill, Cardross,	1 0 0
Campbell, Alexander, Esq. of Auchindarroch, Lochgilphead,	1 1 0
Campbell, Sir Angus, Bart., of Dunstaffnage, Oban,	1 1 0
Campbell, William, Esq. of Tillyquhoun,	1 0 0
Campbell, Mungo N., Esq. of Ballimore, Cairndow,	1 1 0
Campbell, Captain, of Aros, Tobermory,	0 10 0
Campbell, James, Balbrogie, Coupar-Angus,	0 5 0
Cameron, A., Esq. of Locheil,	1 1 0
Carmichael, Sir W. H. Gibson, Bart., of Castle Craig and Skirling,	1 1 0
Carnegie, David, Esq. of Stronvar, Lochearnhead,	1 1 0
Cathcart, Elias, Esq. of Auchindrane,	1 0 0
Chalmers, Charles, Esq. of Monkshill, Aberdeen,	0 10 6
Chancellor, J. E., Esq. of Shieldhill, Biggar,	0 10 0
Chalmers, John J., Esq. of Aldbar,	1 0 0
Christison, Professor, 40, Moray Place, Edinburgh,	1 1 0
Clark, Sir James, Bart., etc., etc., Bagshot Park, Surrey,	1 1 0
Colquhoun, A. Campbell, jun., Esq. of Killermont and Garscadden,	1 1 0
Coats, Thomas, Esq., Ferguslie House, Paisley,	2 0 0
Cockburn, John, Esq., 32, St Andrew Square, Edinburgh,	1 1 0
Coldstream, Dr John, 51, York Place, Edinburgh,	0 10 6
Core, Mr, Normal School, West Approach, Edinburgh,	0 5 0
Coventry, Andrew, Esq., Advocate, Edinburgh,	1 0 0
Cowan, Honourable Lord,	1 0 0
Cowan, Charles, Esq., 32, Royal Terrace, Edinburgh,	1 0 0
Cowan, David, Esq., W.S., 7, York Place, Edinburgh,	1 1 0
Cox, Robert, Esq., W.S., 25, Rutland Street, Edinburgh,	1 1 0
Craig, James T. Gibson, Esq., W.S., 24, York Place, Edinburgh,	1 1 0
Crichton, George, Esq., 55, North Bridge, Edinburgh,	0 10 6
Cunningham, James, Esq., 50, Queen Street, Edinburgh,	1 1 0
Curriehill, Honourable Lord,	1 1 0
Dalgleish, John James, Esq., younger of Ardnamurchan, etc.,	0 10 0
Davidson, William James, Esq. of Ruchill, 22, South Frederick Street, Glasgow,	1 1 0
Drummond, Henry Home, Esq. of Blairdrummond,	1 1 0
Dudgeon, John, Esq., Spylaw, Kelso,	1 0 0
Dudgeon, Patrick, Esq. of Cargen, Dumfries,	1 1 0
Dundas, Robert, Esq. of Arniston,	1 0 0
Dunlop, Alexander Murray, Esq., M.P.,	1 0 0
Eaton, Henry Storks, Esq., Little Bridge, Dorsetshire,	0 5 0
Edmonston, Thomas, Esq. of Buness, Shetland,	1 0 0
Elliot, Robert, Esq. of Wolflee, Hawick,	0 10 0
Ewing, William, Esq., Royal Exchange, Glasgow,	2 2 0

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Forbes, Arthur, Esq. of Culloden,	1	0	0
Forbes, Sir John Stuart, Bart., of Pitsligo,	2	2	0
Forbes, James Stewart, Esq., Charter House, Wimbledon,	1	0	0
Forrester, William, Esq., Wedderburn Mains, Dunse,	0	10	0
Forsyth, James, Esq., Sorne, near Tobermory,	1	1	0
Gardner, Richard, Esq. of Dudhope, Dundee,	1	0	0
Gardner, Robert, Esq., Traquair Knowe, Peeblesshire,	0	10	0
Gartshore, John Murray, Esq. of Gartshore, Kirkintilloch,	1	1	0
Geddes, William, Esq., M.D., Laurel Bank, Elgin,	0	10	0
Gibb, James, Esq., Kettins, by Coupar-Angus,	0	10	6
Gibb, William, Esq., 17, Gayfield Square, Edinburgh,	0	10	6
Gibson, Archibald, Esq., C.A., 10, Maitland Street, Edinburgh,	1	1	0
Gibson, William G., Esq., Dumfries,	0	5	0
Gilchrist, Dr J., Crichton Royal Institution, Dumfries,	0	10	6
Goodlet, William, Esq., Beauchamp, Arbroath,	0	10	0
Gulston, Alan James, Esq. of Derwydd, 20, Grosvenor Square, London,	1	1	0
Grant, Sir George Macpherson, Bart., of Ballindalloch,	1	0	0
Haig, John, Esq., Cameron House, Leven,	1	0	0
Hamilton, J. B., Esq. of Leny, Callander,	1	1	0
Hamilton, The Right Honourable R. C. N., of Dirleton,	2	2	0
Hamilton, Rev. Z. M., The Manse, Bressay, Zetland,	0	10	0
Hamilton, Hugh, Esq., Sundrum Cottage, Ayr,	1	0	0
Hart, Mr William, Optician, 7, North College Street, Edinburgh,	0	10	6
Hay, William, Esq. of Hopes, Haddington,	1	0	0
Hay, Major, Linden Lodge, Loanhead,	1	1	0
Hepburn, J. Stewart, Esq. of Colquhalzie, by Auchterarder,	1	1	0
Hepburn, Sir Thomas Buchan, Bart., of Smeaton,	2	2	0
Highland and Agricultural Society of Scotland,	5	0	0
Hilson, George, jun., Esq., Solicitor, Jedburgh,	0	10	0
Hog, T. A., Esq. of Newliston,	1	0	0
Home, David Milne, Esq. of Wedderburn,	2	2	0
Hope, George, Esq., Fenton Barns, Drem,	1	0	0
Hope, James, Esq. of Belmont, Murrayfield, Edinburgh,	1	0	0
Hume, P. H., Esq., Lawfield, Cockburnspath,	0	5	0
Hunter, James W., Esq. of Thurston,	1	1	0
Hunter, Richard, Esq., 10, Ainslie Place, Edinburgh,	1	1	0
Hunter, W. B., Esq., Newliston Haugh, Kirkliston,	1	0	0
Irving, Rev. Lewis Hay, Falkirk,	0	10	0
Ivory, Thomas, Esq., Advocate, 9, Ainslie Place, Edinburgh,	0	5	0
Jackson, Robert Edmund Scoresby, Esq., M.D., 18, Queen Street, Edinburgh,	0	10	0
James, Colonel Sir Henry, R.E., Ordnance Survey Office, Southampton,	1	0	0
Jamieson, Thomas F., Esq., Ellon,	0	10	0
Jardine, Sir William, Bart., of Applegarth,	2	2	0
Johnston, A. Keith, Esq., March Hall Park, Edinburgh,	1	1	0
Johnstone, J. J. H., Esq. of Annandale,	2	0	0
Kennedy, Right Honourable T. F., of Dunure,	1	1	0
Kerr, Christopher, Esq., Kilcraig, Dundee,	1	0	0
Kerr, Robert, Esq. of Auchinraith, Hamilton,	2	2	0
Kinnaird, The Right Honourable Lord,	1	1	0
Lauderdale, The Right Honourable the Earl of,	1	1	0
Lawson, Charles, Esq. of Borthwick Hall,	2	2	0
Lawson, Charles, jun., Esq., 34, George Square, Edinburgh,	0	10	0
Leslie, James, Esq., C.E., 72, George Street, Edinburgh,	1	1	0
Leslie, Robert, Esq., 72, George Street, Edinburgh,	0	10	0
Lindsay, General A., C.B., Early Bank, Perth,	0	10	0
Little, James, Esq., Carlesgill, by Langholm,	0	10	0
Lothian, The Most Noble the Marquis of,	3	3	0
Lorimer, George, Esq., Mayfield Terrace, Edinburgh,	1	0	0
Lumsden, James, Esq., 20, Queen Street, Glasgow,	1	0	0
Mackenzie, James, Esq., W.S., 9, Doune Terrace, Edinburgh,	1	1	0
Mackenzie, John, Esq., Barnhill, Dumfries,	0	10	0
Mackinlay, W. B., Esq., M.D., 2, New Smith's Hills, Paisley,	1	1	0
Mackenzie, Sir William, of Coul, Bart.,	1	0	0
Mackintosh, George, Esq. of Geddes, Nairn,	1	1	0
Malcolm, John, Esq. of Poltalloch,	1	1	0
Malcolm, W. E., Esq. of Burnfoot, Langholm,	1	0	0
Maclean, Alexander, Esq. of Ardgour,	1	0	0
Macredie, Patrick B. Mure, Esq. of Perceton, Irvine,	1	1	0
Matheson, Sir James, Bart., of Lewis, M.P.,	2	0	0
Mathewson, Andrew D., East Yell, Zetland,	0	10	6
Maxwell, Sir John Heron, Bart., of Springkell,	1	1	0
Maxwell, Wellwood H., Esq. of Munshes,	1	0	0
M'Intosh, Charles, Esq., Newcome Villa, Murrayfield,	0	10	0
M'Lagan, Peter, Esq. of Pumpherston, Mid Calder,	1	0	0
M'Neill, Right Honourable Sir John, G.C.B.,	1	0	0
Mercer, Græme Reed, Esq., New Club, Edinburgh,	1	1	0
Middleton, Major, Waltham Lodge, Murrayfield,	0	10	0
Millar, John, Esq., 2, South St Andrew Street, Edinburgh,	0	10	0
Miller, John, Esq. of Leithen,	1	0	0
Miller, Alexander, Esq., 6, Laurie Knowe, Maxwelton,	1	0	0
Miller, O. G., Esq., Union Mount, Dundee,	1	1	0
Miller, Patrick, Esq., M.D., The Grove, Exeter,	1	0	0
Miller, W. M'G., Esq., Nookton, Leven,	0	10	0
Miller, J., Esq., Leslie,	0	10	0
Milne, John D., jun., Esq., Advocate, Aberdeen,	0	10	0
Milne, James, Esq., Port Dundas,	0	10	0
Milne, Rear-Admiral Sir Alexander, Inveresk,	1	0	0
Mitchell, Arthur, Esq., M.D., Deputy Commissioner in Lunacy, 12, St Andrew Square, Edin.,	0	10	0
Mitchell, J., Esq., Little Knox, Castle-Douglas,	0	10	0
Mitchell, W. Gillespie, Esq. of Carwood, Biggar,	1	1	0
Moir, Benjamin, Esq., 56, Virginia Street, Aberdeen,	0	10	0
Montgomery, Sir G. Graham, of Stanhope, Bart., M.P.,	1	1	0
Montrose Natural History and Antiquarian Society, Montrose,	1	1	0
More, Professor J. S., 19, Great King Street, Edinburgh,	1	1	0
Morrison, Robert, Esq., 6, Heriot Row, Edinburgh,	1	1	0
Muir, Rev. John, St Vigeans Manse, Arbroath,	1	1	0
Muirhead, Claud, Esq., 7, Heriot Row, Edinburgh,	1	0	0
Murchison, Sir Roderick Impey, Director-General of Geological Survey of Great Britain and Ireland, London,	2	2	0
Murray, John, Esq. of Polmaise,	1	0	0
Murray, Dr Thomas, Colinton Bank, Colinton,	0	10	6
Murray, Mr, Academy, Hawick,	0	5	0
Nachot, Dr W. H., George Street, Edinburgh,	0	10	0
Napier, George, Esq., Sheriff of Peeblesshire,	1	0	0
Napier, R., Esq., West Shandon,	1	0	0
Newton, John, Esq., Navigation School, Sailors' Home, Glasgow,	0	10	6
Neaves, The Honourable Lord, 7, Charlotte Square, Edinburgh,	1	0	0
Newbigging, Patrick, Esq., M.D., 29, Heriot Row, Edinburgh,	0	5	0
Nicol, James, Esq., Professor of Natural History, University, Aberdeen,	0	10	0
Nicol, James Dyce, Esq. of Ballogie, by Aberdeen,	1	1	0
North Esk Reservoir Company, Penicuick,	1	0	0

19th June 1861 –

	£	s.	d.
Ogilvy, Sir John, Bart., of Inverquharity, M.P.,	1	1	0
Ord, Sir John P., Bart., of Kilmory,	2	2	0
Oswald, Alexander, Esq. of Auchincruive,	1	0	0
Pears, James, Esq., 2, Buccleuch Place, Edinburgh,	0	5	0
Peebles, W. J., Glasgow,	0	5	0
Pierson, James Alexander, Esq., The Guynd, Arbroath,	1	1	0
Primrose, Honourable B. F., 22, Moray Place, Edinburgh,	1	0	0
Proudfoot, John, Esq., Pinkie Hill, Musselburgh,	0	10	0
Ramsay, Captain John, of Barra,	1	1	0
Rankin, William, Esq., M.D., Otter House,	1	0	0
Rhind, William, Esq., Surgeon, 121, Princes Street, Edinburgh,	0	5	0
Richardson, James, Esq., 105, West Bow, Edinburgh,	1	0	0
Robertson, James, Esq., Ladyrigg, Kelso,	0	10	0
Robson, W., Esq., Clibrig, by Lairg,	0	10	0
Rogers, Professor H. D., University, Glasgow,	0	10	6
Robinow, Adolph, Esq., 2, Moray Place, Edinburgh,	1	0	0
Rome, James, Esq., Glasgow,	0	5	0
Roxburgh, Dr, Laverock Villas, Trinity,	0	5	0
Russell, James, Esq., M.D., Thornhill, Dumfries,	0	10	0
Russell, Robert, Esq., Pilmuir, Leven,	0	10	0
Sadler, Thomas, Esq., Norton Mains, Ratho,	0	10	0
Saltoun, The Right Honourable Lord,	2	2	0
Scarth, Robert, Esq. of Binscarth,	1	0	0
Scott, John, Esq. of Rodono,	1	0	0
Scott, David, Esq. of Balnakettle, Fettercairn,	0	10	0
Seller, William, Esq., M.D., 18, Northumberland Street, Edinburgh,	1	1	0
Seton, George, Esq., Greenhill Gardens, Edinburgh,	0	10	0
Smith, David, Esq., 64, Princes Street, Edinburgh,	1	1	0
Smith, R. M., Esq., 4, Bellevue Crescent, Edinburgh,	1	1	0
Smyth, Alexander, Esq. of Drumduan, Forres,	1	1	0
Smollett, Alexander, Esq. of Bonhill,	1	0	0
Sinclair, Alexander, Esq., 133, George Street, Edinburgh,	1	1	0
Spence, G. W., Esq., M.D., Lerwick, Shetland,	0	10	6
Spottiswoode, John, Esq. of Spottiswoode,	1	1	0
Stephens, Henry, Esq., Redbraes Cottage, Bonnington Road, Edinburgh,	1	0	0
Steuart, Robert, Esq. of Carfin,	0	10	6
Stevenson, Thomas, Esq., C.E., 84, George Street, Edinburgh,	1	1	0
Stevenson, William, Esq., Dunse,	0	10	0
Stewart, Charles, Esq., Hillside, Lockerby,	1	0	0
Stewart, Rev. James, Abernethy, Grantown,	0	10	0
Stewart, John Esq., The Old Terrace, Poulton-le-Sands, near Lancaster,	1	0	0
Stodart, David, Esq., Jerviswood Mains, Lanark,	0	10	0
Storie, John, Esq., Merchant, East Linton,	0	10	0
Strong, Thomas, Esq., W.S., 45, Melville Street, Edinburgh,	1	1	0
Suttie, Sir George Grant, Bart., Prestongrange,	1	1	0
Swan, Professor, St Andrews,	1	1	0
Swinton, Professor Campbell, Edinburgh,	1	1	0
Symond, G. J., Esq., London,	0	10	6
Tait, William, Esq. of Prior Bank, Melrose,	0	10	6
Thomas, Captain, R.N., 13, Trinity Crescent, Trinity,	0	10	0
Thomson, Alexander, Esq. of Banchory,	1	1	0
Thomson, George S., Esq., M.D., Row,	1	0	0
Thomson, James, Esq., Mungo's Walls, Dunse,	0	10	0
Thomson, William, Esq. of Balgowan,	1	0	0
Todd, Richard, Esq., Auckland, New Zealand,	0	5	0
Topp, William, Esq., Ashgrove, Elgin,	0	10	0
Torry, Very Rev. Dean, Coupar-Angus,	0	5	0
Trevelyan, Arthur, Esq., Pencaitland,	1	0	0
Turnbull, John, Esq., 16, Thistle Street, Edinburgh,	1	0	0
Turnbull, Joseph, Esq., Bonhill Place, Dumbarton,	1	0	0
Tweeddale, The Most Noble the Marquis of, Yester House, Gifford,	5	0	0
Vernon, G. V., Esq., 1, Osborne Place, Old Trafford, Manchester,	0	10	0
Walker, Mr Alexander, Castle Newe, Strathdon,	0	5	0
Waterston, Charles, Esq., Banker, Inverness,	0	5	0
Wedderburn, Sir John, Bart., Keith House,	0	10	0
Wharncliffe, The Right Honourable Lord, Wortley Hall,	2	0	0
Wilson, James, Esq., Wester Cowden, Dalkeith,	0	10	0
Wilson, John, Esq., Professor of Agriculture, University, Edinburgh,	1	0	0
Woodford, Dr, 59, Great King Street, Edinburgh,	0	5	0
Yeats, William, Esq., Advocate, Aberdeen,	0	10	6
Young, Harry, Esq. of Cleish Castle, Kinross,	0	5	0
Zetland, The Right Honourable the Earl of,	2	2	0
	L.241	7	0

DONATIONS ENTITLING TO LIFE MEMBERSHIP.

	£	s.	d.
His Grace the Duke of Roxburghe,	L.10	10	0
Hamilton, John, Esq. of Sundrum,	5	0	0
Hope, John H., Esq., South Elphinstone,	5	0	0
Leslie, James, Esq., C.E., Edinburgh,	5	5	0
Mactaggart, Captain, of Seafield, Ayr,	5	5	0
Rainy, George, Esq., Island of Raasay,	6	0	0

FINANCIAL ABSTRACT for the YEAR ending 19th June 1861.

RECEIPTS.

				£	s.	d.
Balance in Union Bank of Scotland at 30th June 1860,				L.79	16	4
Arrears of Subscriptions for year 1858–59, recovered				17	4	6
Arrears of Subscriptions for year 1859–60, recovered				39	14	6
Amount of Subscriptions for year 1860–61, received				161	11	0
Amount of a Life Subscription, received				5	0	0
				L.303	6	4
Deduct Payments as on other side,				254	4	8
Balance on hand,				L.49	1	8
Whereof in Union Bank of Scotland,	L.37	2	0			
In Hon. Treasurer's hands,	11	19	8			
	L49	1	8			
Amount of Arrears, as at 19th June, 1861,—						
Year 1858–59,	L.3	7	6			
„ 1859–60,	4	3	6			
„ 1860–61,	84	7	0			
				91	18	0
Total Funds belonging to the Society,				L.140	19	8

PAYMENTS.

	£	s.	d.
Salary and Per Centage to Meteorological Secretary, paid	L.57	6	0
Allowance to Honorary Treasurer's Clerks,	15	15	0
Instruments purchased and repaired,	26	2	0
Printing of Quarterly Reports, etc.,	53	6	6
Stationery,	11	17	2
Rent of Chambers,	35	16	0
Advertising,	8	17	3
300 Copies of Mr Jamieson's Prize Essay on Rainfall, for distribution among the Members of the Society,	10	0	0
Postages of Quarterly Reports, etc., and Stamps and Incidents,	9	9	0
Balance due to the Honorary Treasurer on last year's Account,	25	15	0
Total Payments,	L.254	4	8

Number of Members, 260.
Amount of Annual Subscriptions, L.241, 7s.

June 15, 1861.—The foregoing Accounts were this day examined by us, compared with the Vouchers, and found correct; leaving a Balance in the Bank of L.37, 2s., and in the hands of the Treasurer a sum of Eleven Pounds, Nineteen Shillings, and Eight Pence, to his debit in next Account.

THOMAS K. CORE.
ROBERT LESLIE.

Meeting of Council, in the Society's Chambers, on 27th. September 1861 —

Present — Mr. Milne Home — in the Chair —
Honble. Lord Curriehill —
Mr. Miller —
Dr. Seller —
Professor Balfour —
Mr. Johnston —
Mr. Core —
Major Hay —
The Meteorological Secretary —
The Treasurer —

The Minutes of last Meeting were read, and found correct —

A Letter from Dr. Strachan, Dollar Institution, offering to form a Station there, in connection with the Society, was submitted — The offer was accepted —

The Treasurer reported that the following Gentlemen had, since last Meeting, intimated a wish to join the Society, and they were, on the motion of the Chairman, admitted Members accordingly — viz.: —
The Earl of Selkirk —
David Anderson Esqr. of Moredun —
Walter Elliot Esqr. of Wolflee —
George Cunningham Esqr., Middlefield, near Dunse —
William Smith Esqr., Merchant, Dundee —
E. J. Lowe Esqr., Highfield, Nottingham —

The consideration of proposals to establish Stations at St. Andrews and Pitlochry was deferred till

Number of Members, 260.
Amount of Annual Subscriptions, L.241, 7s.

June 15, 1861.—The foregoing Accounts were this day examined by us, compared with the Vouchers, and found correct; leaving a Balance in the Bank of L.37, 2s, and in the hands of the Treasurer a sum of Eleven Pounds, Nineteen Shillings, and Eight Pence, to his debit in next Account.
THOMAS K. CORE.
ROBERT LESLIE.

~~till next Meeting~~ postponed – as was a proposal from Mr. Forbes of Culloden that the Society should offer a Prize for the best Digest of a long series of Meteorological Observations –

The Chairman agreed to correspond with the Duke of Buccleuch as to an Anemometer for the Station at Wanlockhead –

The Meteorological Secretary was directed to write to the Observer at Iona desiring him to discontinue his Observations – and to take means for securing the services of a competent Observer at that Station –

He was also directed to write to Mr. Harvey, Stirling, for definite information as to whether he be willing to provide the requisite Instruments – if he should not be so, means to be taken for securing an Observer for the Station at Stirling –

He was further directed to write to Mr. Tait, Kirkpatrick-Juxta, regarding the Society's Barometer in his possession – and to use means toward securing an Observer for the Station there –

It was resolved that The Fall of Rain should be the subject for the Report for the Quarter ending on 30th instt. –

Thanks were voted to Mr. Thomas Miller, Stock Broker, Edinburgh, for the Donation of Patterson's "Observations on the Climate of Ireland", and to Mr. Keiller, W.S., for "Lairones' Meteorology at Edinburgh, 1820 & 1836" – Mr. Buchan mentioned that the followings had also been presented to the Society, viz. –

The 9th & 10th Reports of the Council of

27th September 1861 –

The Council of the British Meteorological Society for the Year 1859 & 1860 –
Proceedings of the Literary & Philosophical Society of Liverpool for Session 1860–61 –
Address before the American Association for the Advancement of Science. August 1859 –

Thanks were voted for these Works –

Mr Buchan was authorized to attend a Class from 12 to 1 o'clock, during the Winter Session, he giving attendance in the Society's Chamber from 11 to 12, and from 1 to 4 o'clock; and to intimate these hours of attendance by a ticket at the door of the Society's Chamber, as had been done formerly –

Meeting of Council, held in the Society's Chambers, on 10th December 1861 –

Present – Mr Milne Home – in the Chair –
The Marquis of Tweeddale –
Major Hay –
Mr Cockburn –
Mr Johnston –
Mr Hope –
Mr Cunningham –
Mr Core –
Dr Mitchell –
Professor Balfour –
Mr [illegible]

MINUTE OF COUNCIL, 27TH SEPTEMBER 1861.

MR BUCHAN submitted to the Council a continuation of his Report on the Pressure of the Atmosphere, derived from observations at the Society's Stations for the four years ending 31st December 1860. This Report embraces Tables in which the amount of vapour in the atmosphere is calculated, in order that the weight of dry air alone may be deduced.

The Council fully appreciate the large amount of labour which Mr Buchan has undergone in the preparation of his Report, and of the elaborate Tables illustrating it.

The Council authorizes the insertion in next Quarterly Report of the following papers:—

1. On the Origin of Cyclones or Revolving Gales. By Professor Rogers of Glasgow.
2. On a New Form of Rain-gauge. By Walter Elliot, Esq. of Wolflee.
3. Abstract of Paper, by T. Dobson, Esq., Liverpool, on the "Royal Charter" Storm.
4. Statement of Sea Temperatures on West Coast of Scotland, in May and June 1861, transmitted by Captain E. Bedford, R.N.

The Council are happy to have it in their power to add returns from seven new Stations, in connection with the Society. These will be found on page 13. They have received notice from the Trustees of the Dollar Institution, that observations will in future be made there, and reported to the Society. The instruments for this new Station are now in the Society's Office, for comparison and adjustment.

The Council authorized the admission of the following persons as members of the Society:—

The Earl of Selkirk.
David Anderson, Esq. of Moredun.
Walter Elliot, Esq. of Wolflee.
Mr George Cunningham, Tenant of Middlefield, by Dunse.
William Small, Esq., Chairman of the Chamber of Commerce, Dundee.
E. J. Lowe, Esq., Highfield, Nottingham.

The following donations to the Society's Library were laid before the Council, which the Secretary was requested to acknowledge, with thanks for the same.

1. An Original Manuscript of Meteorological Observations kept from 1820 to 1836 at Edinburgh. By Mr A. Gairdner.—Presented by Mr William Skinner, W.S.
2. Observations on the Climate of Ireland from very early periods down to the year 1804. By William Patterson, M.D.—Presented by T. Miller, Esq., Stockbroker, Edinburgh.
3. Reports of the Council of the British Meteorological Society for the years 1859 and 1860.—Presented by the Council of that Society.
4. Proceedings of the Literary and Philosophical Society of Liverpool for 1860–61.
5. Address before the American Association for the Advancement of Science, in August 1859. By Professor Alexis Caswell.
6. Meteorological Observations at Providence, Rhode Island (United States). By Professor Alexis Caswell.

10th. December 1861 –

Mr. Stevenson –
The Meteorological Secretary –
The Treasurer –
Mr. Stephens had called, to say that
he could not be present –

The Minutes of last Meeting, held on 27th. September last, were read, and found correct –

Mr. Cockburn agreed to communicate with ~~Mr.~~ Colonel Maclean of Ardgour, with a request for an answer to a late letter to him, as to Observations in his District –

The Qr. Report for the Quarter ended on 30th. September last was submitted by the Chairman –

It was agreed on, after a full conversation, that the Report should embrace the following papers, viz.t –

Mr. Buchan's paper on The Fall of Rain –
Mr. Lowe, of Highfield, Nottinghams, Report
on the excessive Cold of Christmas 1860 –
Comparison of the Fluctuations of the Barometer
in Nova Scotia and in Scotland, By
David Milne Home Esqr. –
Comparison of Air and Underground ~~Tempe~~:
:~~ratures~~ – By Mr. A. Poirion –
Note of Weather Prognostics in Iceland –

Mr. Johnston read a Letter from Sir John Stuart Forbes, relating to the establishing of a Station at New Pitsligo, in Buchan – It was agreed that Sir John's proposal should be adopted – Mr. Johnston to correspond with him on the subject –

Directions were given for having all the ~~Society's~~ Instruments issued by the Society stamped –

10th December 1861 -

stamped with the Society's name - The mode of doing so to be arranged by Mr. Buchan with Mr. Adie -

Mr. Cockburn suggested the expediency of an attempt being made toward a more speedy communication to Edinburgh and Glasgow, and other important places in Scotland, of the state of the Weather in different parts of the Continent of Europe - A conversation on the subject followed, and on the temperature of drained and undrained Land; and the Marquis of Tweeddale agreed to offer a Prize for Paper on the subject -

The Marquis of Tweeddale offered to correspond with Parties connected with the India House, toward access being had, by this Society and other Scientific Bodies, to very valuable Returns, on Meteorology and kindred subjects, understood to have been received from India - His Lordship's offer was gladly accepted -

MINUTE OF COUNCIL, 10th DECEMBER 1861.

The Meteorological Secretary laid before the Council his Report on Rainfall, being the subject which had been specially remitted to him for investigation. Having examined this Report, and the Tables referred to in it, the Council authorize it to appear in the next Quarterly Number of the Society's proceedings.

The Council authorize also the following other papers to form part of the same Number:—

1. Comparison of the Fluctuations of Barometer in Nova Scotia and in Scotland. By David Milne Home, Esq.
2. On the Excessive Cold of Christmas, 1860. By E. J. Lowe, Esq.
3. Comparison of Air and Underground Temperatures. By M. A. Pouriou.
4. Note of Weather Prognostics in Iceland.

A suggestion having been made by Mr John Cockburn, that it would be of great importance to ascertain by experiments the effect of drainage on the temperature of the soil, the Council cordially approved of the inquiry; and the Marquis of Tweeddale, who was present, intimated his willingness to offer a prize for a Report of such experiments. The Council expressed their acknowledgments to the Marquis for this renewed instance of his liberality in promoting the objects of the Society.

The Meteorological Secretary intimated that the following donations had been presented since last Meeting:—

1. Kaemtz Meteorology.—Presented by Mr Buddo, Surgeon, St Andrews.
2. Smithsonian Report for 1859.—Second Geological Survey of Arkansas.—Meteorological Observations made at Providence, Rhode Island. By Alexis Caswell.—Meteorological Observations made near Washington, Arkansas. By Nathan D. Smith, M.D.—Magnetic and other Meteorological Observations made at the Gerard College Observatory, Philadelphia. By A. D. Bache, LL.D.—Meteorological Observations in the Arctic Seas. By E. K. Kane, M.D.—Astronomical Observations in the Arctic Seas. By E. K. Kane, M.D.—On Certain Storms in Europe and America, December 1836. By Elias Loomis, LL.D.—On Fluctuations of Level in the North American Lakes. By Charles Whittlesey.—Presented by the Smithsonian Institution.
3. First to Tenth Numbers (inclusive) of Meteorological Papers, published by authority of the Board of Trade.—Barometer and Weather Guide.—Barometer Manual.—Presented by the Board of Trade.

10th December 1861 -

4. On the Irregular Oscillations of the Barometer at Manchester. By G. V. Vernon, F.R.A.S.—On a System of Periodic Disturbances of Atmospheric Pressure in Europe and Northern Asia. By Joseph Baxendell, F.R.A.S.—Presented by G. V. Vernon.
5. Barometrical Table. By E. J. Lowe, Esq., F.R.A.S.—Prognostics of the Weather. By E. J. Lowe, Esq., F.R.A.S.—Presented by the Author.
6. Meteorologische Beobachtungen an der Wiener Sternwarte, von 1775 bis 1855.—Nederlandsch Meteorologische Jaarboek, 1860.—Sur la Marche Annuelle Thermometre et du Barometre en Divers Lieux de L'Europe. Par C. H. D. Buys Ballot.—Presented by Dr C. H. D. Buys Ballot.
7. Greenwich Astronomical and Meteorological Report for 1859.

Meeting of Council, in the Society's Chambers, on 8th January 1862 -

Present - Mr Milne Home - in the Chair -
Mr Johnston -
Mr Stephens -
Major Key -
Mr Hunter -
Mr Cunningham -
Dr Seller -
Mr Robert Leslie -
The Meteorological Secretary -
The Treasurer -

The Minutes of last Meeting, held on 10th ulto., were read, and found correct -
The arrangements for the Half yearly General Meeting, to be held on 16th instt., were considered - When Mr Johnston promised to read a Paper on certain Observations on the Gulf Stream in High Latitudes -
It was intimated that the Marquis of Tweeddale had given authority to mention, at the General Meeting, that he intended

to

to offer a Prize of Forty pounds for Experiments and Reports on the Temperature of Drained and Undrained Land.

The change falling, in terms of the Laws, to be made in the Council at the January Meeting was then taken up, when it was agreed that the following Gentlemen should go out in rotation; Vizt., Lord Curriehill, Mr. Alexander, and Dr. Seller; and that the following Gentlemen should, if willing, be proposed for Election in their room, Vizt., Lord Cowan and Dr. Searesby Jackson. If Lord Cowan should decline, the Treasurer was directed to inquire whether Lord Neaves (also now a Member of the Society) would agree to his being proposed.

It was agreed that the Half yearly General Meeting should be held on Thursday the 16th instt., at Twelve o'clock, in The Highland &c. Society's Museum. Notice of the Meeting to be given by a Circular, which should include a notice of the matters to be brought before the Meeting, and of the Annual Subscriptions being due as on 1st instt.

A Meeting of Council to be held in The Highland &c. Society's Museum on the 16th at 11 A.m., and to be intimated as usual.

Meeting of Council, in the Museum of The Highland & Agricultural Society, on 16th January 1862, at 11 A.M. –

Present – Mr Milne Home – in the Chair –
The Marquis of Tweeddale, President of the Society –
Sir John Stuart Forbes, Bart., Vice President of the Society –
Mr Stephens –
Mr Stevenson –
Dr Seller –
Mr Cunningham –
Major Hay –
Professor Balfour –
Mr Hunter –
Mr Johnston –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting, held on 8th instt., were read, and found correct –

The Treasurer reported that he had seen Lord Cowan since last Meeting, and that His Lordship had expressed great interest in the Society and it's operations, and promised to consider of joining the Council, if elected; but that His Lordship had subsequently, for the reasons given in a letter which was on the table, declined to be put in nomination – That he had, on receipt of that letter, waited, as directed, on Lord Neaves, who had, with great cordiality,

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cordiality, agreed to join the Council, if elected - He also mentioned that he had just seen Sir Thomas Gladstone, of Fasque, who expressed a wish to join the Society, as a Member, at a Guinea of Annual Subscription -

Mr Stephens, Professor Balfour, and Mr Stevenson, were appointed a Committee (Mr Stephens Convener) to revise the Specification for the Marquis of Tweeddale's Prize -

SCOTTISH METEOROLOGICAL SOCIETY.

From the Scotsman of 17 Jany 1862

The half-yearly general meeting of the Scottish Meteorological Society was held yesterday, in the Highland and Agricultural Society's Museum, George IV. Bridge. The Marquis of Tweeddale, President of the Society, occupied the chair, and among those present were—Sir John S. Forbes, Bart., Vice-President; David Milne Home of Wedderburne; Sir Thomas Gladstone of Fasque, Bart.; Major Hay, Lindenlodge; Professor Balfour; Mr T. Stevenson, C.E.; Mr A. Keith Johnston; Dr Baikie, Kirkwall; Mr Richard Hunter; Mr Dalgleish, younger of Ardnamurchan; Mr Henry Stephens; Mr Hope, Fentonbarns; Mr Maclagan of Pumpherston; Dr Seller; Mr James Cunningham; Mr W. Brown, F.R.C.S.; Mr A. Gibson, C.A., Hon. Treasurer; Mr Buchan, Meteorological Secretary.

REPORT.

Mr Milne Home read the report of the Council for the half-year, which was as follows:—

"The Council have to report that their attention during the last six months has been directed to the following objects:—(1), Selecting special subjects of investigation by the meteorological secretary; (2), superintending and assisting him in his various duties; (3), framing quarterly reports on meteorological returns, and on topics of general interest; (4), arranging for new stations, changes of observers and instruments, &c.

"The Council are happy to be able to say that in all respects the ordinary business of the Society is going on satisfactorily. In particular, the accession of new members, and the large number of donations presented to them from various quarters during the past year, prove that the Society is advancing in public estimation. The Council desire to acknowledge a very handsome donation of books and reports from the Council of India, sent through the Marquis of Tweeddale.

"The Marquis of Tweeddale, our president, has intimated to the Council his desire to offer a prize with the view of obtaining information on a subject alike of scientific interest and great practical value. It is known only vaguely that one effect of the drainage of land is to raise the temperature of the soil; but no precise experiments have been made, so far as the Council are aware, to show—(1), what should be the depth of drains to produce a maximum effect; (2), whether any difference in this respect arises by reason of a variation in the composition of the soil or the state and colour of its surface; (3), at what seasons of the year, and during what kind of weather, the greatest and least effects are respectively produced. The Society will at once appreciate the great importance of a prize which shall elicit accurate information on these points, and will no doubt adopt the suggestion of the Council, that a special vote of thanks should be tendered to the Marquis of Tweeddale for this renewed proof of his interest in meteorological investigations.

"The Society is aware that in each of the two last years prizes on subjects equally useful have been given by his Lordship. The prizes for which observations are being carried on at present in different parts of Scotland is for good sets of observation on the temperature of the air exposed to the sun, in connection with the growth of corn crops. These will terminate with the month of April. The Marquis proposes that the observations to be carried on for the prize just announced shall not commence until after the above date, before which a programme will be published, announcing the amount of the prize and other conditions.

"The Council have to mention that they have taken it upon them to prepare an address of condolence to Her Majesty, to be submitted to the general meeting for adoption, thinking it due to the memory of the late Prince-Consort that this Society should testify to the interest taken by His Royal Highness in the advancement of art and science.

"In place of the members of Council who retire, the following members are recommended for election, viz.:—The Hon. Lord Neaves and Dr Scoresby-Jackson."

Mr Dalgleish, younger of Ardnamurchan, moved the adoption of the report, which was agreed to.

ADDRESS OF CONDOLENCE TO THE QUEEN.

Sir John S. Forbes said he had been requested to propose the address of condolence to Her Majesty which the Council had thought it appropriate to suggest as part of the business of the meeting. It would be presumptuous in him, after the splendid and deserved eulogiums which had been pronounced in various quarters on the character and memory of that admirable Prince, to attempt to bring forward anything worthy of the great subject; but he might notice one or two points connected with the particular objects of the Meteorological Society in which His Royal Highness exhibited an interest. They could not but feel that a great blow and discouragement had been given to the progress of scientific discovery by the loss which the country had sustained in the death of the Prince-Consort. He took a peculiar interest in the department of natural phenomena with which that Society was connected, and although the intercourse of the officials of the Society with His Royal Highness had been almost entirely through the medium of his scientific agent, Dr Robertson, it was marked by the cordial and warm interest which the Prince evinced in their pursuits. He showed this interest not only by the establishment of very complete registers on his own estates in the north, at which the returns were daily and carefully marked and transmitted, but also by his assistance to and interest in Dr M'Gillivray's admirable illustrations of Deeside, which was widely circulated by means of presentation copies at His Royal Highness's expense. As one instance among many of the personal interest taken by His Royal Highness in everything which was worthy of his patronage, he (Sir J. Forbes) might mention what happened to himself when on one occasion, along with the Rev. H. Stuart, he waited on His Royal Highness to request his patronage for the Cottage Improvement Association. The Prince received them as cordially as if they had been his intimates for a month, and after expressing his interest in the object of the association which they represented, he discussed its prospects, and explained his own views in a very clear and intelligible manner. All this time the carriage was waiting for him, and time was pressing, but yet he spent fully half an hour with them, listening to their views and expressing his own. One remark which he made struck them very much, and had never since gone from their memory, or ceased to influence their operations in connection with that Society. He remarked that they stood in a somewhat peculiar position, in coming to proprietors, and asking them to spend considerable sums of money on a certain class of improvements, and that it was incumbent on them to present to those to whom they applied, not only a very full exposition of the objects which they had in view, and the benefits to be obtained, but at the same time very humbly to represent that they merely took the position of suggesting what should be done, but that it rested entirely with them (the proprietors) to determine the mode in which the object was to be carried out. "You must remember," said His Royal Highness, "when putting your hands into other men's pockets, that you must be very careful in suggesting to them the mode in which their money is to be applied." (Hear, hear.) He mentioned that as one slight example of the prudence and practical wisdom which His Royal Highness displayed in reference to the advancement of all objects in which he took an interest. Sir John Forbes concluded by reading the draft of the address, which, after expressing sympathy with Her Majesty in her recent bereavement, contained the following paragraph:—

"We, in common with the rest of our countrymen, also mourn this lost on our own account. We

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remember with pride and gratitude that the late Prince was the enlightened patron of many useful institutions, and was ever ready to assist in the advancement of art and science. In particular, we know that he appreciated the importance of the science of meteorology, to which this Society applies itself; and that when President of the British Association for the Advancement of Science he assisted to establish meteorological and magnetical observatories both in our own land and in foreign countries."

Mr MILNE HOME, in seconding the adoption of the address, said he thought every opportunity should be taken to make known what had been done by the late Prince-Consort for the advancement of science and art, and he was glad that this had been specially alluded to in the address. All who had ever come in contact with His Royal Highness in any way knew that he was so retiring and unobtrusive in his manners and tastes that a great many things of that nature were done by him of which the public were never aware, and, therefore, it was right that every legitimate opportunity should be taken to make known the debt of gratitude which was due to His Royal Highness for the great zeal which he showed to advance every scientific or social object which was for the public benefit. (Hear.) They were all, he was sure, obliged to Sir John Forbes for the interesting information which he had given them regarding the interest manifested by the Prince in meteorological as well as social objects in Scotland, and the readiness with which he came forward to give his assistance and patronage. Mr Milne Home then alluded to the address delivered by the Prince-Consort in Aberdeen, as President of the British Association for the Advancement of Science — an address which, he said, must have produced a feeling of surprise and admiration in the minds of all who heard it, and which displayed not only an acquaintance with science, but a zeal and earnestness in its pursuit, which was scarcely to be expected from one in his position, and who had so many other claims upon his time. He (Mr Milne Home) was much surprised to see in a print the other day a list of the societies of which the Prince-Consort had been president, and of the various addresses which he had given, in which list no notice was taken of the British Association, in connection with which he delivered incomparably the longest and most striking of them all. (Hear.)

Mr A. KEITH JOHNSTON said he was encouraged by what had been said to mention a circumstance showing the interest taken by the Prince in geographical and geological science. Some years ago, he received very warm encouragement from His Royal Highness in connection with a publication which he was then commencing, and during three years the Prince continued to communicate with him through his Secretary, giving him information and hints of the utmost value, which he had no doubt the public would reap the benefit of. (Applause.)

The address was then unanimously approved of.

VOTE OF THANKS TO THE MARQUIS OF TWEEDDALE.

Mr T. STEVENSON, C.E., said it was impossible to hear the report read without feeling how deeply the members of the Society were indebted to their noble President. (Applause.) Not only had he given them his name and influence, but he conferred upon them very valuable substantial benefits. There was one thing for which he thought they were much indebted to his Lordship. The public were somewhat impatient in regard to purely scientific pursuits, and more especially with regard to the mere recording of facts without showing the practical fruits of the study. Now, the Marquis of Tweeddale had done a great deal already to show that the science which they were engaged in cultivating had a most important bearing on the interests of mankind generally. The subject of drainage, in connection with which his Lordship had this year offered another prize, was one of the most important that could have been selected, and he hoped the result would be beneficial not only to the Society, but to the agricultural interest, and to the people of this country in general. (Hear.) He begged to move that the thanks of the Society be given to the Marquis of Tweeddale for so handsomely coming forward a third time, and offering a prize for the important subject mentioned in the report of the Council. (Applause.)

The CHAIRMAN briefly acknowledged the vote of thanks, remarking that he had long been convinced that it was only by a careful accumulation of reliable facts and observations that any real advance was to be made in the science of meteorology and its application to the practical conditions of life.

EFFECTS OF THE GULF STREAM ON THE CLIMATE OF ICELAND AND SCOTLAND.

Mr A. KEITH JOHNSTON, Hon. Secretary to the Society, read a paper containing "recent observations on the Gulf Stream in high latitudes," from which we take the following extracts :—

"The climate of the British islands is so much affected by the high temperature of the Gulf Stream that a brief notice of some recent observations on its direction and extent may not be devoid of interest. It is well known, from the concurrent testimony of many observers, that a branch of the current of warm water from the Gulf of Mexico spreads out in a north-easterly direction past the Hebrides, the Shetland, and the Faröe Islands, on its way to the coasts of Norway, where its influence is still so great that, even up to the North Cape, in lat. 71° N., it keeps the harbours open for shipping all the year round; while these in the Baltic, many degrees further south, but beyond its reach, are frozen during several months. Hitherto materials have been wanting to enable us to trace the course of the Gulf Stream towards the north and west in high latitudes; but these have now been supplied in a series of valuable observations on the temperature of the surface of the sea on the north, south, east, and west of Iceland, undertaken and arranged by Captain C. Irminger of the Danish navy. From these observations it appears, that in about the parallel 61° n[illegible]th and between the meridians of 16° and 18° west, the Gulf Stream divides, sending off one branch, as already noticed, to the north-east, and another towards the north-west. This latter—the newly-observed branch—touches the southern shores of Iceland at Portland, whence it flows west to Reikjanaes, and thence bending towards the north, it passes outside of Faxe Bagt at the rate of 4°·8 nautical miles in twenty-four hours.

Proceeding northward, its course is arrested shortly after reaching the parallel of 66°, by the Arctic current of cold water flowing south-west towards Cape Farewell in Greenland; and here the limits of the two currents are so sharply defined that, within a short distance in longitude, the temperature, which in the warm northerly current is 49°, is found in the cold southerly currents to be no more than 32°, making a difference of 17° Fahrenheit.

"To the northward of this, in the meridian of 20° or 22° west, the Arctic current forms a loop or eddy, and sweeps first in an easterly and then in a southerly direction along the northern and eastern shores of Iceland, till it meets and mingles with the warm currents in its north-easterly course.

"These observations afford a satisfactory explanation of the cause of the comparatively high temperature of the sea on the west and south-west coasts of Iceland, where the thermometer frequently indicates 50° and 51° Fahr., as contrasted with that of the east coast, where, it will be observed, the branch of the Arctic current before alluded to flows close in-shore, keeping at a distance the warm north-easterly current; and where, in consequence, on the same parallel of latitude, the temperature sinks to 32° and 33° Fahr., or 18° lower on the east than on the west side of the island. . . .

"From a statement in the last number of the *Athenæum*, it appears that 'the expedition despatched by the Swedish Government to investigate the physical geography of Spitzbergen have ascertained that the Great Gulf Stream which sweeps past the Norway coast reaches as far as the shores of that island.' We are thus enabled to trace the Gulf Stream some 8° or 9° further north than we were warranted to do by previous observations, and the details of this expedition will be looked for with much interest.

"Mr Milne Home has favoured me with valuable and most interesting notes and observations made by his son while crossing the Gulf Stream from Halifax to Bermuda in November last, from the log-book of H.M.S. Nile. The weather, he says, was exceedingly stormy, so that the exact line of demarcation between the tepid waters of the Stream and the waters of the general ocean through which it flows was less distinct than usual. Nevertheless, the registry marks plainly enough when the Gulf Stream was entered and when it was crossed. The writer says :—'In calm weather the line of demarcation between the Gulf Stream and the waters which border on it, can easily be seen, and was well observed when the Nile (the flag-ship) went to Halifax from Bermuda last May. On that occasion the temperature of the water under the *stern* was above 70°, and that of the water under the *bow*, at the same moment, was under 40°. This was at the northern edge of the stream; on the Bermuda side the difference was less.'

"No circumstance can more clearly demonstrate the definite course which this 'river in the ocean' cuts for itself through the surrounding waters than the fact that within the length of a ship lying across it the difference in temperature amounted to more than 30° of Fahrenheit.

For the purpose of further elucidating the effects of the Gulf Stream on the shores of the British Isles, our secretary, Mr Buchan, has, at my request, drawn up a table of the comparative temperature of the sea and air on the west and east coasts of Scotland, from four years' observations, 1858-59-60-61, by members of our own Society; the stations being on the west, Sandwick, Stornoway, Harris, Otter-House, Easdale, and Oban; and on the east, Barry, Smeaton, and East-Linton (Dunbar.)

"The following results are deduced : — 1st, That the mean annual temperature of the sea on the west coast is 1°·1 Fahr. higher than on the east coast. 2. That the mean temperature of the air is 0°·9 higher on the west than on the east coast. 3. That the temperature of the sea on the west coast is at its minimum in March, when it amounts to 43°·5, and that it attains its maximum in July, 55°·0—the difference being 11°·5. On the east coast the minimum occurs in February, 41°·2; and the maximum in July, 55°·8—difference, 14°·6. Hence it appears that the maximum and minimum occur earlier on the east than on the west coast, and that the difference between the extreme monthly means is 3° greater on the east than on the west coast. 4. That the difference between the sea temperature on the east and west is in winter greater than the difference of the air temperature, while in summer it is less."

Mr MACLAGAN of Pumpherston moved that a vote of thanks be given to Mr Keith Johnston for his interesting and instructive address, and that it be printed in the Transactions of the Society. (Applause.)

Professor BALFOUR, in seconding the motion, referred to the difference in the flora of the east and west coasts of Iceland, caused by the presence of the Gulf Stream on the latter and its absence on the former.

The CHAIRMAN, in conveying the thanks of the meeting to Mr Keith Johnston, said he had listened to his paper with much interest, and he believed with great personal profit. He had made them acquainted with a number of new facts derived from the highest practical authority, which added very much to the value and satisfactoriness of the conclusions to which he had arrived. He (the noble Marquis) had long wished that the course of the Gulf Stream and its effects, especially after it had passed the Banks of Newfoundland, should be explained by competent authorities. This had already been done to a considerable extent by the valuable observations of Lieutenant Maury; and they had been traced out with great minuteness, so far as ascertained, by Mr Johnston in his Physical Atlas, and he had now introduced them to additional information as to how

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the Gulf Stream gradually loses itself in the Northern Seas, which might lead to both curious and important practical results. Adverting to the great importance to the agriculturist of a knowledge of the variations of climate and soils in the parts of the country where he resided, his Lordship said the first thing which drew his attention to the difference of the climate on the west and east coasts of Scotland was, not the difference between the flora found within parallel degrees of latitude, which had been alluded to by Professor Balfour, but from seeing, when he was a mere novice both in agriculture and meteorology, the large size of the cattle which came from the islands on the western coast, and which he found, from their weight and quality, sometimes brought as high prices as the shorthorn breed. On inquiry, he found that, to a large extent, these fine animals came from the Island of Colonsay, which was now the property of the learned Lord President of the Court of Session, who, he believed, was one of the first and most scientific agriculturists in the west of Scotland. He could not understand how to account for it, until he came to know that there was something in the climate of that district which caused the grass to grow there for ten months of the year—(hear)—so that breeders were only for two months out of the twelve obliged to resort to other kinds of food. When he heard medical men, too, speaking of the absurdity of people going off to foreign countries, at great expense and inconvenience, to look for a mild climate, while they had such a mild and equable temperature almost all the year round in the west of Scotland, it struck him that there must be something more than appeared on the surface to account for this improvement of temperature and climate—and this he at length found was the presence of the Gulf Stream. (Hear.) He was very glad to say, in reference to the Society, that nothing could exceed the success with which they were moving in their various operations. They were constantly collecting new and important facts for the study of those engaged in this interesting branch of science, and he had the best authority for saying that their operations were carried on in the right direction. Nothing could be more satisfactory than the manner in which their business was arranged and carried on by the Council; and he felt that they all owed a debt of gratitude to Mr Milne Home, the chairman of the Council, not only for his labours in collecting the information, but for the intelligible and satisfactory manner in which he brought up the business before them on all occasions. (Applause.) There was only one thing which the Society wanted—namely, an increase in the number of its members. They required funds to enable them to carry on their labours efficiently, and he trusted that they would obtain increased funds by an increase of their membership, by which means they would be enabled to continue and increase their operations for the advancement of science, and its practical application to the interests of the people. (Applause.)

A vote of thanks to the noble Marquis for his conduct in the chair terminated the proceedings.

Meeting of Council, held in the Society's Chambers, on 18th January 1862, at 2 P.M.

Present - Mr Milne Home - in the Chair -
Major Hay -
Mr James Leslie -
Mr Johnston -
Mr Stephens -
Professor Balfour -
Dr Scoresby Jackson -
Mr Stevenson -
Honble Lord Neaves -
Dr Mitchell -
The

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The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting of Council, held on 10th instt., were read, and found correct –

The Chairman stated that his object in calling the present Meeting was that the Meeting might consider what special subject should be taken up by the Meteorological Secretary for treatment in the next Quarterly Report – The Chairman having stated his views, a conversation ensued, when it was resolved that the subject should be The differences of Climate in different parts of Scotland, as shewn in the Observations made for the Society, especially as regards Temperature, Moisture, Rain, and Winds – as also as regards the progress of vegetation in these Districts –

The Treasurer mentioned that the following Gentlemen had intimated a wish to be admitted as Members of the Society, vizt. – John Scarth Esqr., Mandorston House, Berwickshire, and Mr. Alexander Reid, Optician, 47 South Bridge – Both Gentlemen were admitted, the Treasurer to intimate their admission in the usual way –

Mr. Buchan was directed to communicate with the Honble. Lord Ardmillan, as to His Lordship's willingness to establish a Station on his property, situated on the West Coast of Ayrshire, near Girvan, where the Society has not at present any Station; the nearest being that at Stranraer –

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The Chairman mentioned his having had a communication from Mr. Forbes of Culloden, relative to what appeared to Mr. Forbes to be a possible connection between the Potatoe blight which had occurred in October last and an alleged deficiency of Ozone in the atmosphere during the period of the blight – A conversation on the subject followed, in which Dr. Mitchell, who was known to have paid particular attention to the subject of Ozone, took part – the general opinion was that it had not been ascertained that there had been any deficiency of Ozone during the period referred to, the fact lying, it was believed, rather the other way –

Mr. Stephens offered to prepare a Report on certain phenomena (atmospherical), indicative of coming storms, which he had observed, last season, while in England and in Ireland also – The offer was gladly accepted –

Dr. Mitchell agreed to report, to next Meeting of Council, the result of inquiries which he had been requested to make relative to the proverbial sayings current in Country Districts as to the natural signs of the weather –

Meeting of Council, held in the Society's Chambers, on 1st April 1862 –

Present – Mr Milne Home – in the Chair –
Mr Robert Leslie –
Mr Cox –
Mr Cunningham –
Mr Johnston –
Major Hay –
The Marquis of Tweeddale –
Mr Stephens –
Mr James Leslie –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting, held on 18th January last, were read, and found correct –

The Meteorological Secretary reported that he had been in communication with The Honble Lord Ardmillan regarding the esta:blishment ~~with the t~~ of a Station on the West Coast of Ayr, and that His Lordship, having made inquiry, recommended as suitable parties to act as Observers Messrs Peter Paterson, Shoemaker, and William McMurtrie, Wallacetown, Dailly – The Secretary was directed to correspond with these parties –

The Chairman laid on the table a Report by Mr Stephens, as promised by him at last Meeting of Council – The thanks of the Meeting were tendered to Mr Stephens; and the Report in-

in full, or more or less of it, as there might be room, was directed to be inserted in the Quarterly Report about to be issued –

With reference to Dr Mitchell's Report relative to a Collection of proverbial sayings current in rural Districts of the Country relative to natural signs of the Weather, the Treasurer stated that he had reason to know that Dr Mitchell had been called to go to the Country on professional duty, without his having been able to complete the Report, on which he had been engaged –

The Chairman, and the Meteorological Secretary, explained the causes of the latter's not having been able to complete, in a satisfactory way, the matter for the outcoming Quarterly Report which he had been directed, at last Meeting of the Council, to throw together – The explanations given were considered satisfactory; and the Meeting, after Mr Buchan had exhibited some of the results of his labours in preparing the matter referred to, (with which also the Meeting expressed great satisfaction) took under consideration what other matter should go to compose the next Quarterly Report – The following papers were agreed on – 1st, On indications of Storms, from the appearance of the Clouds, By Mr Stephens, Member of the Council of the Society – 2d, On the frequency of certain Meteorological Phenomena, near Aberdeen, By Mr Alexander Cruickshank, an Observer for the Society – 3d, Notice of a new subject of investigation, for which a Prize is offered

by D

by The Marquis of Tweeddale, President of the Society –

The Treasurer reported that Mr. Richard Hunter had requested him to propose for Election as a Member of the Society Dr. Thomas Kay, Portobello – his subscription to be a guinea p. ann. also, that Col. Hunter, of Auchterarder, had applied, through Mr. George Keith, for admission as a Member of the Society – his Annual Subscription to be £1 – Both Gentlemen were unanimously elected – Their Election to be intimated as usual –

The Chairman laid before the Council the Home Secretary's Acknowledgement of the receipt of The Society's Address of Condolence on the occasion of the Decease of His Royal Highness Prince Albert, in which acknowledgement Sir George Grey stated that he would take an early opportunity of laying the Address before Her Majesty –

Mr. Buchan mentioned that The Revd. Mr. McGregor, Minister of the Parish of Logiealmond, had offered to become an Observer for the Society; but the Meeting agreed that a new Station in that District was not required; and Mr. Buchan was directed to intimate to Mr. McGregor accordingly –

The Chairman laid on the table a Report, by Mr. Forbes of Culloden, on the Effects of the severe Frost of December 1860, which had been forwarded for insertion in the Society's Report – On account of its great length, the Council did not think it suitable for publication in the Quarterly Report; but, considering the great value of

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value of the facts which it embodies, it was recommended that Mr Forbes send it to the Editor of the Edinburgh Philosophical Journal, for insertion in that Periodical. —

MINUTE BY THE COUNCIL, April 1st, 1862.

Mr Buchan adverted to the subject which, at the last meeting of Council, had been remitted to him for special investigation, viz., an exposition of the climate of Scotland, in its leading features of temperature, humidity, and winds. He very much regretted that his investigations were not so advanced as to enable him to give an account of them in time for publication in the forthcoming Quarterly Report. He laid before the Council some of the tables which he had constructed, from five years' observations at the Society's stations, embracing not only the mean temperature at these places for the year, the winter, and the summer, but likewise the maximum and minimum temperatures, and mean daily range. The period, also, at which the Council had fixed on this subject had allowed less time than usual for the investigation. He hoped that the Council, in these circumstances, would see that it had been impossible for him, in justice to the subject or to himself, to have by this time completed a Report for their consideration.

The Council intimated to Mr Buchan that they were perfectly satisfied with the explanations he had given, and that they appreciated very much the industry and labour shown in his investigations, so far as they had gone. They had no doubt that they would enable him to prepare a Report on the climate of Scotland, and of its several districts, which would be very complete, and be most interesting and useful.

The Council approved of the publication of the following papers in the next Quarterly Report:—

1. Notice of a new subject of investigation, for which a prize is offered by the Marquis of Tweeddale, President of the Society.

2. On indications of storms from the appearance of the clouds, by Henry Stephens, a Member of the Council.

3. On the frequency of certain meteorological phenomena, near Aberdeen, by Mr Alexander Cruickshanks, an observer for the Society.

The Council, with reference to the new prize offered by the Marquis of Tweeddale, agreed to record their unanimous opinion of the great importance of the subject chosen, and of the liberal and handsome manner in which his lordship had again come forward to encourage the science of meteorology.

It would be remembered that there was a prize given by the Marquis of Tweeddale about a year ago, to ascertain the meteorological conditions which determine the profitable and unprofitable culture of ordinary farm crops in Scotland. The observations for this prize were to be carried on for twelve months. As this period has now expired, the Secretary mentioned that he expected to receive shortly a number of Reports in competition for the prize.

The Council have to take notice of, and acknowledge, a very handsome donation of books from the Council of India, obtained through the Marquis of Tweeddale, containing meteorological observations carried on in different parts of that great continent, for a number of years. They will form an important addition to the Society's library.

The Council have received, through Mr Napier of Glasgow, a meteorological journal kept at Lisbon from the year 1857 to 1862, by Mr Evans, a merchant there, for which the thanks of the Council are due. A set of schedules will be forwarded to Mr Evans, according to Mr Napier's request.

A letter was laid before the Council, from Sir George Grey, as Secretary for the Home Department, acknowledging the Address sent from the Society to her Majesty, on the occasion of the Prince Consort's death.

The following new members were admitted, viz.,—

Dr Key, Portobello; and
Colonel Hunter, of Auchterarder.

The following donations had been presented to the Library since last Meeting:—

Bombay Magnetical and Meteorological Observations for the years 1845–46–47–48–50–51–52–57–58–59–60.—Meteorological Register kept at Madras by John Goldingham, Esq., F.R.S., and Thomas G. Taylor, Esq., F.R.S., F.R.A.S.—Barometrical Sections of India. By Surgeon Edward Balfour.—Madras Meteorological Observations, 1846–1850.—Magnetic Observations at Bombay, 1842.—Meteorological Observations at Bombay. By George Buist, LL.D., 1842–43.—Dodabetta Meteorological Observations, 1847–48–50–51–55.—Meteorological Statements of the North-Western Provinces, from 1844–45 to 1849–50.—Geological Survey of India, Vols. I., II., and Part I. of Vol. III.—Oldham's Geology of the Khasi Hills.—Geological Report of the Kymore Mountains. By D. H. Williams, Esq.—Annual Reports of the Museum of Geology, 1858–59 and 1859–60.—Journal of the Asiatic Society of Bengal, 1857–58–59–60.—Eight Catalogues of the Government Central Museum, Madras.—Three Reports upon the Magnetic Survey of India By Adolphe and Robert Schlagintweit.—Presented by the Council of India.

Second Detailed Annual Report of the Registrar-General of Births, Deaths, and Marriages in Scotland.

Description of a Method of Reducing Observations of Temperature. By Professor J. D. Everett, King's College, Windsor, N.S.—Presented by the Author.

British Rain-fall during 1860 and 1861. Compiled by G. J. Symons.—Presented by the Author.

Meteorological Register, kept by Arthur H. Ivens, Lisbon, from August 1856 to January 1862 inclusive.—Presented by J. R. Napier, Esq., Glasgow.

Meeting of Council, in the Society's Chambers, on 24th May 1852.

Present – Mr. Milne Home – in the Chair –
Mr. Stephens –
Mr. Stevenson –
Mr. Johnston –
Mr. Hope
Mr. Cove –
The Meteorological Secretary –
The Treasurer.

The Minutes of last Meeting of Council, held on 1st. April last, were read, and found correct –

A Letter from Mr. Paterson, Shoemaker, Ervine, who had been recommended by Lord Ardmillan, was laid before the Meeting, agreeing to act as an Observer for the Society, provided Instruments were supplied to him – His offer was accepted, on the usual conditions –

The Chairman brought before the Meeting the Returns which had been made under The Marquis of Tweeddale's Offer of Prizes of last year, and suggested the appointment of a Committee who might examine these Returns, and report to the Council the result of their examination – The following Committee was appointed accordingly, Viz.t, The Chairman, Mr. Stephens, Professor Balfour, and Mr. Hope – Mr. Stephens Convener –

The Chairman then brought under notice The Marquis of Tweeddale's current Prize, and a Letter which he had received from Mr. Forbes of Culloden

Culloden regarding it. Mr Buchan was directed to answer Mr Forbes's Letter.

The Chairman laid before the Meeting a letter from Mr John Stuart-Forbes, expressing, on behalf of his Reverend Brother at Burntisland, a wish that the Society would direct it's attention to Burntisland as a Station for Observations. In connection with this subject, Mr Stevenson, who had lately been residing at Ventnor, in the Isle of Wight, said that he had, for sometime past, been thinking it might be very advantageous that the Council should direct it's attention to the ascertainment of the sanatory Temperature of various localities in Scotland, as he hoped that some might be found to be as eligible for Invalids as those in England, or other localities out of Scotland; and he suggested Mr Buchan's taking steps toward such Observations being made at ~~Ab~~ Burntisland and Aberdour, to begin with. This was agreed to, and Mr Buchan was directed to communicate with Sir John S. Forbes, or his Brother, on the subject.

It was agreed that the Halfyearly General Meeting should be held on Wednesday the 4th proxo., in the Highland &c. Society's Museum, on the rising of the Meeting of that Society, or at, say, Two o'clock — to be advertised in the N. B. Advertiser of Saturday next, and the Courant and Scotsman of Wednesday and Saturday next.

The Chairman kindly undertook to make a communication to the coming Halfyearly Meeting on the subject of Admiral Fitzroy's announcements of his anticipations of the Weather; and his offer was gladly accepted.

Mr

24th May 1862 –

Mr Buchan had received a letter from J. F. S. Gordon, D.D., Glasgow, expressing a wish to become a Member of the Society, at an annual Subscription of Six Shillings – This request was agreed to; his admission to be intimated to him as usual –

The Council agreed that a sum of not over four pounds ten shillings (£4.10/-) should be contributed, from the Society's Funds, toward the printing of Mr Johnstone's Paper on the Gulf Stream read before the Society in January last –

The Chairman directed attention to a Rain Gauge submitted by Mr Elliot of Wolfelee. After a conversation on the subject, it was agreed that, while the Council declined to adopt the Gauge referred to, yet ~~it was~~ as it had the recommendation of cheapness, Mr Buchan might bring it under the notice of persons applying to him for information as to Rain Gauges, along with other Rain Gauges –

Sir John Stuart Forbes to be written to, with a request that he take the Chair at the coming Half yearly General Meeting, the President being to be in England at the time of it –

Mr Buchan reported his progress in the preparation of the Paper he had been directed, at the Meeting on 18th January last, to prepare – and said he hoped to be able to finish it before the middle of June –

Mr Buchan was directed to prepare a Schedule for the Marquis of Tweeddale's current prize, and to submit it to Mr Stephens before its being printed –

Meeting of Council, in the Society's Chambers, on 3rd. June 1862, at 2 P.M. –

Present – Mr. Milne Home – in the Chair –
Mr. Stephens –
Mr. ~~Stevenson~~ –
Major May –
Mr. Johnston –
Mr. Cove –
Dr. Scoresby Jackson –
Mr. James Leslie –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting, held on 24th. ulto., were read, and found correct –

The Treasurer's Accounts for the past year, as audited by Mr. Johnston, Honorary Secretary and Auditor to the Society, were submitted and considered and passed –

The following Gentlemen were named as those to be suggested to the Half-yearly Meeting for election to fill up the two Vacancies in the Council, Professor Allman, Mr. Bouverie Primrose, Mr. Charles Lawson, and Mr. Thomas Ivory – The Treasurer to communicate with these Gentlemen in succession –

The Chairman submitted the Report which he proposed, on the part of the Council, to lay before the Half Yearly Meeting tomorrow – It was unanimously approved –

The Chairman suggested that after Mr. Buchan should have finished the Paper on which he was engaged &c

3rd June 1862 –

engaged he should take up the Returns made to the Marquis of Tweeddale's last year's Prize – This was agreed to –

The Treasurer was directed to address a reminder to the Members in arrear of their Subscriptions –

List of Office-Bearers of the Scottish Meteorological Society.

JUNE 1862.

PRESIDENT.

The Most Noble the MARQUIS of TWEEDDALE.

VICE-PRESIDENT.

Sir JOHN STUART FORBES, of Pitsligo, Bart.

COUNCIL.

DAVID MILNE HOME, Esq. of Wedderburn, F.R.S.E.

JOHN MILLER, Esq. of Leithen, F.R.S.E.

ARTHUR MITCHELL, Esq., M.D., Deputy Commissioner in Lunacy.

HENRY STEPHENS, Esq., F.R.S.E., Redbraes Cottage, Edinburgh.

THOMAS STEVENSON, Esq., C.E., F.R.S.E., Edinburgh.

JAMES CUNNINGHAM, Esq., 50, Queen St., Edinburgh.

JAMES LESLIE, Esq., C.E., Edinburgh.

GEORGE HOPE, Esq., Fenton Barns, Drem.

J. H. BALFOUR, Esq., Professor of Botany, University of Edinburgh, F.R.S.E.

Major HAY, Linden Lodge, Loanhead.

Mr THOMAS CORE, Lecturer on Science, Edinburgh.

Capt. THOMAS, R.N., Trinity Crescent, Trinity.

Capt. STOTHERD, R.E., 11, Melbourne Place, Edinburgh.

ROBERT EDMUND SCORESBY JACKSON, Esq., M.D., Queen Street, Edinburgh.

The Hon. Lord NEAVES, Charlotte Square, Edinburgh.

Hon. BOUVERIE F. PRIMROSE, Board of Fishery, Royal Institution, Edinburgh.

CHARLES LAWSON, Esq. of Borthwick Hall, George IV. Bridge, Edinburgh.

DAVID MILNE HOME, Esq., Convener of Council.

METEOROLOGICAL SECRETARY.

Mr ALEXANDER BUCHAN, the Society's Chambers, 10, St Andrew Square, Edinburgh.

HONORARY SECRETARY.

ALEXANDER KEITH JOHNSTON, Esq., 4, St Andrew Square, Edinburgh.

HONORARY TREASURER.

ARCHIBALD GIBSON, Esq., C.A., 10, Maitland Street, Edinburgh.

I.
MINUTE OF COUNCIL.

THE Council authorized the publication, in the next number of the Society's Transactions, of the Report drawn up by Mr Buchan on the Climate of Scotland; and as this Report extends to considerable length, they agree that no other matter shall be printed.

The Council farther agree that the next subject of investigation to be taken up by Mr Buchan, shall be an Examination of the Returns which were made in competition for the Marquis of Tweeddale's prize of last year.

The Council call the attention of Members to the very large amount of subscriptions in arrear. By the Society's rules, subscriptions should be paid in January, whereas, from the financial Abstract subjoined, it will be seen that this rule is unattended to by a large number of Members. The Council are put to much inconvenience arising from this want of punctuality.

The Council approved of a Memorial drawn out to be presented to the Board of Trade, in favour of a continuance of Admiral Fitzroy's Storm Signals.

Members of the Society admitted since last Report:—

J. F. S. Gordon, D.D., Glasgow.
Mr Taylor, Optician, 46, Princes Street, Edinburgh.

The following Donations have been presented to the Library since last Meeting:—

Report of the Meteorological Department of the Board of Trade, 1862.—Barometer Manual. By Admiral Fitzroy.—An Explanation of the Meteorological Telegraph. By Admiral Fitzroy.—Presented by the Board of Trade.

Proceedings of the British Meteorological Society, Vol. I., No. 2.

Third Detailed Annual Report of the Registrar-General of Births, Deaths, and Marriages in Scotland.—Census of Scotland, 1861.

Abstracts from the Meteorological Observations taken at the Stations of the Royal Engineers, in the Years 1853-4-5-6-7-8-9.—Presented by authority of the Right Hon. the Secretary of State for War.

3d June 1862 –

SCOTTISH METEOROLOGICAL SOCIETY.
FINANCIAL ABSTRACT for Year ending 4th June 1862.

RECEIPTS.

Balance in the Union Bank of Scotland at 19th June 1861, . . .	L.37	2	0
Do. in hands of Honorary Treasurer, at do., ...	11	19	8
Arrears of Subscriptions for Year 1858–59, received, ...	0	0	0
Do. do. 1859–60, do.,	0	10	6
Do. do. 1860–61, do.,	51	4	0
Subscriptions for Year 1861–62, do.,	164	7	6
Life Subscription, do.,	5	0	0
Donation, do.,	5	0	0
Interest credited by Union Bank of Scotland, ...	0	12	8
Balance due to Honorary Treasurer, at 4th June 1862, ...	25	19	7
	L.301	15	11

PAYMENTS.

Salary and Per Centage to Meteorological Secretary, paid . .	L.72	10	0
Allowance to Honorary Treasurer's Clerks, ...	15	15	0
Instruments purchased and repaired,	1	19	6
Books purchased, ...	2	6	0
Printing of Quarterly Reports, etc., .	88	19	3
Stationery, ...	6	3	11
Rent of Chambers, ...	36	8	0
Advertising (including Advertising of the Marquis of Tweeddale's Prizes),	34	16	3
Insurance against Fire, ...	0	14	0
Postages of Quarterly Reports, Schedules, etc., and Stamps and Incidents,	17	5	0
Balance in Union Bank of Scotland, at 4th June 1862, ...	24	19	0
	L.301	15	11

Balance due to Honorary Treasurer, as above, ...	L.25	19	7
Do. in Union Bank of Scotland, do., ...	24	19	0
	L.1	0	7
Amount of Arrears, as at 4th June 1862—			
Year 1858–59, ...	L.3	7	6
„ 1859–60, ...	3	2	6
„ 1860–61, ...	33	3	0
„ 1861–62, ...	78	14	6
Total Funds belonging to the Society, ...	L.118	7	6
Less the above Balance of	1	0	7
Remains, ...	L.117	6	11

Number of Members, . . 262

Amount of Annual Subscriptions, . . L.238 10 6

31st May 1862.—I have this day examined the foregoing account, and compared it with the Vouchers, all which are found correct; the Balance in favour of the Treasurer, Twenty-five Pounds, Nineteen Shillings, and Seven Pence, to his credit in next Account.

(Signed) A. KEITH JOHNSTON,
Hon. Sec. and Auditor.

From Daily Review of 5 June 1862

SCOTTISH METEOROLOGICAL SOCIETY.

The half-yearly general meeting of the Scottish Meteorological Society was held yesterday afternoon, immediately after the termination of the meeting of the Highland and Agricultural Society of Scotland. The sederunt was as follows:—Sir John Stuart Forbes, of Pitsligo, Bart., in the chair, Vice-president of the Society, David Milne Home, Esq. of Wedderburn, Chairman of the Council of the Society; Major Hay, Linden Lodge; Thomas Stevenson, Esq., C.E.; Alexander Keith Johnston, Esq., her Majesty's Historiographer for Scotland; William Thomson, Esq. of Balgowan; Robert Elliot, Esq., Wolflee; William H. Brown, Esq. of Ashley; William Topp, Esq. of Ashgrove; Peter M'Lagan, Esq. of Pumpherston; Robert Russell, Esq., Pilmuir; Richard Hunter, Esq.; Mr Core, Teacher of Science, Normal School, Castle Terrace; James Anderson, Esq., S.S.C., &c., &c., &c.

REPORT OF THE COUNCIL.

Mr Milne Home read the following report of Council to the general meeting of Meteorological Society:—The Council are happy to be able to say that the society's proceedings are going on with the usual regularity and smoothness.

The stations of the society are now sixty-five, being three more than they were a year ago; and in the monthly returns from all the observers, there are far fewer errors than formerly to be corrected, and fewer ambiguities to be cleared up.

The meteorological secretary, Mr Buchan, has proved himself a laborious and painstaking officer. In examining the monthly returns from observers, he is most assiduous; to which circumstance, as well as to the increasing accuracy of the returns themselves, the Council ascribes the fact, that they receive now less frequently letters from the Astronomer Royal, calling for explanations.

Mr Buchan has also devoted himself to the subjects of investigation remitted to him by the Council, in a way which meets with their cordial approval.

The Council have now to announce the amount of competition which has taken place for a prize given by our noble President last year. The subject was a set of thermometrical observations, to be continued for twelve continuous months, with instruments fully exposed to the sun and wind, for the purpose of throwing light on the conditions which affect the growth of agricultural crops in different parts of Scotland.

The Council have received sets of observations from eight observers.

The Council, through the aid of a committee have examined the observations given in by these eight individuals. Two of the reports are accompanied by essays of an elaborate character, which are full of most important information. These essays are from the Rev. Mr Clouston, of Sandwick, in the Orkneys, and Dr Rankine, of Otter House, Argyleshire.

The committee have found it exceedingly difficult to say that any one set of these observations is much better than another; all of them are excellent, and the Council having mentioned their difficulty to their noble President, he has in a most liberal manner consented to allow the sum of £5 to be awarded to each of the eight persons who have sent up complete sets of observations.

The Council, however, think it only right to signify to the Rev. Dr Clouston and to Dr Rankine, the great satisfaction which their committee has derived from a perusal of the essays, which accompanied their sets of observations.

The use to which these observations and these two essays are to be put, will be a subject of consideration, and will come under the early attention of the Council,—with a view to an ascertainment and a publication of the results.

The Marquis of Tweeddale has, with his usual liberality, offered a new prize, on a subject of great practical interest. The object is to ascertain the effect of underground drainage, in raising the temperature of the soil. The sum of £80 has been placed at the disposal of the Council for this purpose. The thanks of the society are especially due to our President for this new proof of his devotion to the science of meteorology and to the interests of the society.

The Council have to perform the melancholy duty of intimating, that during the last six months, two of their colleagues in the management of the society have been removed from them by death. Mr John Cockburn and Mr Robert Leslie, were zealous in the discharge of their duties as members of the Council. The former had been longest a member of the society, and took especial interest in its progress, and in the advancement of the science. Not many weeks before his death, he endeavoured to get from London a daily telegram to be posted on the Exchanges of Glasgow and Leith, of the state of the winds and weather on the Continent. It was he also who suggested the inquiry into the effect of underground drainage on the temperature of the soil,—the importance of which was at once seen by the Council, and for which inquiry the Marquis of Tweeddale has recently offered the prize of £80 already alluded to.

To supply the vacancies in the Council occasioned by the death of Mr Cockburn and Mr Leslie, it has been suggested that the Hon. B. F. Primrose and Professor Allman should be appointed by this general meeting.

The Council annex to this report an abstract of the finances of the society, prepared by Mr Gibson, their honorary treasurer, and audited by Mr Keith Johnston.

They regret very much to see from the accounts that members are not more punctual in paying their yearly subscription at the proper time, which is in January. In consequence of this, difficulty is experienced in conducting the business of the society, and much additional trouble is given both to members themselves and to the society's treasurer.

The Council have further to take notice of the increased expenditure arising partly from the establishment of new stations, but more especially from the increased size of the quarterly reports supplied to subscribers. The Council are very desirous that the revenue of the society should be augmented to enable them to uphold the society on the same footing which it now occupies. Members are, therefore, particularly requested to make known to their friends the strong claims which the society has on public support. If each member would but undertake to send in to the treasurer the name of one additional subscriber, the affairs of the society would be put into a most prosperous condition. The Council express a hope that members would kindly undertake the service now suggested.

The receipts for the year amounted to £301 15s 11d, and there were now 264 members on the roll, with

£243 2s of subscriptions.

ADMIRAL FITZROY'S STORM SIGNALS.

Mr MILNE HOME then directed the attention of the meeting to the subject of Admiral Fitzroy's storm signals. The number of stations, he said, had now increased from fifty to seventy, eight of the stations being in North Britain. In consequence of many of these signals not being followed by bad weather, serious complaints were made to Government, and Government, on that account, and also because the expense had increased from £700 to £2000, made inquiries as to the expediency of continuing the system of storm signals. In answer to inquiries they had made at the different stations, forty-four answers had been sent to the Board of Trade, stating that the system of storm signals had been highly beneficial; six or seven qualified answers had been given, and three were entirely unfavourable. Mr Milne Home thought that the society, or its members, should express an opinion in favour of the continuance of the system.

Mr RUSSELL, Pilmuir, then spoke of the hygrometer as a most useful instrument in testing meteorological theories, and suggested that their intelligent young secretary should give his attention to this subject.

MEMBERS OF COUNCIL.

On the motion of Mr THOMSON, Balgowan, seconded by Mr TOPP, Ashgrove, the meeting then appointed the Hon. B. F. Primrose and Charles Lawson, Esq., of Borthwickhall, Members of Council, in room of Mr John Cockburn and Mr Robert Leslie, both deceased.

On the motion of Mr ELLIOT, Wolflee, seconded by Mr RUSSELL, the cordial thanks of the society were offered to the Marquis of Tweeddale for the handsome prizes he had offered this year.

A vote of thanks to the Chairman then concluded the proceedings.

Meeting of Council, in the Society's Chambers, on 18th June 1862.

Present. Mr Milne Home in the Chair.
Mr Stephens.
Mr Cox.
Mr Leslie.
Mr Johnston.
Major Hay.
Professor Balfour.
The Meteorological Secretary.
The Treasurer.

The Minutes of last Meeting of Council, held on 3d instt., were read, and found correct.

The Meteorological Secretary submitted the paper which he had been directed to prepare, on the Climate of Scotland as determined by Temperature. Those Members of Council who had had an opportunity of reading more or less

less of the papers expressed themselves so favorably of it that it was agreed that it should form the bulk of the next Quarterly Report, or, if need be, the whole of that Report, with the usual Abstract of the Accounts, List of the Members of Council, and a Notice to the Members of the Society relative to payment of their Subscriptions, which last was submitted, in Dft. by Mr. Johnston, and approved -

The Treasurer submitted a Circular which he was in course of issuing to those Members whose subscriptions were at present in arrear -

The Chairman submitted a Letter which he had received from Admiral Fitzroy, dated 9th instt., in which the Admiral says, inter alia, "I am "exceedingly obliged to you for having done so much "in supporting me - besides the system in which "I am a Workman - The Memorial so kindly "proposed may be very useful just now." "if it "only states, in general terms, that you approve "of the Warning Signals, and desire their con- "tinuance -" He submitted, also, a Dft. Memo- rial to the Board of Trade, with reference to the Storm Signals, which was approved, and ordered to be transcribed and duly transmitted, after being subscribed by Sir John Stuart Forbes as Chairman of the late Half yearly Meeting -

Meeting of Council, in the Society's Chambers, on 7th October 1862, at 2 P.M.

Present - Mr. Stevenson -
Mr. Johnston -
Mr. Cox -
The Meteorological Secretary, who mentioned that the Treasurer's absence arose from his being in the Country -

Mr. Stevenson, in absence of the Convener, was called to the Chair -

The Minutes of last Meeting, held on 19th June last, were read, and found correct -

The Meteorological Secretary submitted the Paper which he had been directed to prepare, on the Returns which had been made in competition for the Marquis of Tweeddale's Prize of last year. It was agreed that this Paper appear in the Report for the Quarter ending June 1862, along with the following, viz. -

Mr. Glaisher's Letter to The Times, on his Balloon Ascent - and
The Temperature on the West Coast of Scotland -

Offers of the establishing of Supplementary Stations at the following Stations were considered, and disposed of thus -

Those referring to Fraserburgh and Newburgh, respectively, were not accepted -
Glenquoich - to lie over for further consideration -
Burntisland and Aberdour - recommended

7th October 1862 -

:mended - but final decision to lie over till next Meeting of Council -

Aberdeen Grammar School accepted -

Mr Buchan was authorized to attend a Class from Eleven to twelve o'clock, he giving attendance in the Society's Chamber from 12 to 4 o'clock, and to intimate these hours by a ticket at the door of the Chamber, as he had done last Winter -

The Meteorological Secretary mentioned that the following Parties had intimated their wish to join the Society - viz -

Mrs Alexander, 4 St Vincent Street -

James Douglas Esqr of Cavers -

William Thomson Esqr, Seafield House, Leith -

Revd William Barrack, Rector of the Grammar School, Aberdeen -

Alexander Beverly Esqr, Grammar School, Aberdeen -

The Chairman proposed that each should be admitted a Member, and each was admitted accordingly -

The Meteorological Secretary reported that the Memorial to the Board of Trade, referred to in the Minutes of last Meeting, had been duly forwarded, by Sir John Stuart Forbes, and that its receipt had been acknowledged -

MINUTE OF COUNCIL, 7th October 1862.

Mr Buchan laid before the Council his Report on the Returns which were made in competition for the Marquis of Tweeddale's prize of last year, being the subject specially remitted to him for investigation. Having examined this Report, and the Tables referred to in it, the Council authorize it to appear in the next Quarterly Report.

The Council authorize also the following other papers to form part of the same Report:—

1. Mr Glaisher's Balloon Ascent from Wolverhampton.
2. Sea Temperatures on the West Coast of Scotland.

The Council authorized the admission of the following as members of the Society:—

Mrs Alexander, St Vincent Street.
James Douglas, Esq. of Cavers.
William Thompson, Esq., Seafield House, Leith.
Rev. William Barrack, Rector of the Grammar School, Aberdeen.
Alexander Beverly, Esq., Grammar School, Aberdeen.

Meeting of Council, in the Society's Chambers, on 29th. October 1862.

Present. Mr. Milne Home, in the Chair.
Mr. Johnston.
Mr. Cox.
Dr. Seaworthy Jackson.
Mr. Miller.
Mr. Hope.
Mr. Cunningham.
Mr. Stevenson.
The Meteorological Secretary.
The Treasurer.

The Minutes of last Meeting, held on 7th. instt., were read, and found correct.

Mr. Johnston read a Letter which he had received from the Marquis of Tweeddale, relative to the mode of paying the Amount of the prizes offered by His Lordship; and it was agreed that he should be requested, by Mr. Johnston, to cause the Amount to be remitted to the Treasurer, to be handed by him to the successful Competitors. Five pounds to each of the Eight.

The offer to establish a ~~new~~ Station at Glenquoich was accepted; and the Chairman was requested to ~~correspond~~ communicate with Mr. Ellice as to a Hygrometer for the Station there.

Mr. Mc. Dougall was accepted as an Observer at Ardishaig, near Oban.

A Letter from the Revd. Mr. Forbes, relating to Stations at Burntisland and Aberdour,

having

was read – It was agreed that a Station be established at each of these places – The Revd Mr Forbes to be Observer at Burntisland, and the Teacher of the Free Church School at Aber:dour to be the Observer there – A Maximum Thermometer to be lent to Mr Forbes – and a Hygrometer, and Max. and Min. Thermometer and Box, to the Teacher –

As regards the Edinburgh Station, the Chair:man reported that the Instruments were being repaired, with a view to their being set up at the Castle –

Dr Jackson was requested, and agreed, to read a Paper on "Meteorology in it's relation "to Public Health," at the Half yearly General Meeting in January next –

It having been suggested that it might be advisable to issue a Circular with a view to obtaining an addition to the number of Members of the Society, the consideration of this whole subject was remitted to the Chairman, Mr Stevenson, Mr Johnston, and Mr Cunningham, as a Committee; and a Dft Circular which had been prepared by the Treasurer was also re:mitted to them –

The subject for the next Quarterly Report was agreed to be the number of rainy days, the amount of cloud, and the hours of sunshine, in different Districts –

Mr Johnston mentioned that he understood that willingness had been expressed, by the Mana:gers of the Normal School at Moray House, Canon:gate, to make Meteorology a subject for instruction among the more advanced pupils in T

in that Institution; and Mr Johnston was requested to follow out any steps requisite towards the Society's having the benefit of such an accession of Observers as might, in time to come, be had from among the Pupils trained in the Normal School referred to.

Meeting of Council, in the Society's Chambers, on 26th November 1862, at 2 P.M.

Present — Mr Milne Home — in the Chair —
Mr Johnston —
Major Kay —
Dr Scoresby Jackson —
Professor Balfour —
The Meteorological Secretary —
The Treasurer —

The Minutes of last Meeting, held on 29th ulto. were read, and found correct.

The Chairman read a Letter from Mr Ellice, (in answer to one which he had written to him as requested at last Meeting of Council) agreeing to what was asked of him as to a Station at Glenquoich.

Intimation was made of Mr Stephens's inability to attend this Meeting — and of Mr Cunningham's, also.

The consideration of a Draft Circular, prepared by T.

by the Chairman, was taken up - The Chairman apologized for his having omitted to call together the Committee appointed at last Meeting before the holding of the present Meeting, saying that the fact of the Committee's having been appointed had escaped his memory - While approval, generally, was expressed of the Draft Minute, several alterations were suggested; and, at the request of the Chairman, the whole subject was remitted back to the Committee appointed at last Meeting.

The following Gentlemen were reported to have requested that they might be proposed as Members of the Society - and, on the motion of the Chairman, they were elected Members accordingly - Viz. -

As Life Members -

John Miller Esqr. of Leithen -
William Rankin Esqr., M.D., Otto House -
Mr. David Don, Baldinnies, Dunning -
each having agreed to pay Five pounds -

And as Ordinary Members -

Robert Scott Moncrieff Esqr. of Fossaway -
James D. Grant Esqr., Advocate - per Dr. Nachot -
Dr. Macgown, Millport, Greenock -
David Smith Esqr., F.R.A.S., Birmingham -

Meeting of the Committee of the Council on the proposed Circular, held in the Society's Chambers, on 13th. December 1862 –

Present – Mr. Cunningham, who, as requested, took the Chair, in the absence of Mr. Milne Home, prevented from attending –
Mr. Johnston –
Mr. Stephens, who, by directions of Mr. Milne Home, had been invited to attend –
The Meteorological Secretary –
The Treasurer –

The Circulars which had been prepared were taken under consideration, when the following alterations, being all that occurred as being requisite; were agreed upon as to be recommended for adoption;
That the place of Meeting for the Half Yearly General Meeting of the Society next month should be the Hall of the National Bible Society, No. 5 St. Andrew Square –
And that the hour of the said General Meeting should be Two o'clock –
It was, farther, agreed to recommend the use of the said Hall in St. Andrew Square for the future Meetings of the Society, as it can be had at a very moderate charge – from 5/. to 8/. p Meeting –

Meeting of Council, in the Society's Chambers, on 22d. December 1862, at 2 P.M.-

Present - Mr. Milne Home - in the Chair -
Mr. Stephens -
Professor Balfour -
Mr. Cox -
Dr. Mitchell -
Mr. Johnston -
Mr. Cunningham -
The Meteorological Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 26th ulto., were read, and found correct - as were also the Minutes of the Committee on the Circular, dated 13th curt. -

The Chairman made a verbal report on the Paper which Mr. Buchan had prepared with a view to its forming part of the next Quarterly Report, and expressed his strong approval of it. -

The following Gentlemen were unanimously admitted Ordinary Members of the Society -

Revd. Francis Redford, St. Paul's Parsonage, Silloth, Carlisle - proposed by Professor Balfour -

Revd. Robert A. Gray, Public Mathematical Teacher, Academy, Aberdeen - proposed by Mr. Buchan -

Mr. Dalgleish Junr., Grange House Academy, Edinburgh - proposed by Dr. Nachot, through the Treasurer. -

It being understood that The Marquis of Tweeddale could not be present at the approaching Half yearly

22d. December 1862 -

Halfyearly General Meeting; owing to his absence in England. Mr Milne Home was requested to write to Sir John Stuart Forbes, expressing the hope that he, as Vice President of the Society, would take the Chair at the Meeting -

An offer by the Earl of Airlie, to establish a Station at Cortachy, was accepted. His Lordship supplying the Instruments -

It was arranged that the following Members of Council should go out in rotation at this time, Vizt. - Mr Miller of Leithen - Professor Balfour, and Mr Leslie - and that the following Gentlemen be requested to allow their names to be proposed to the General Meeting for election to fill up the vacancies so created, vizt., Mr Elliot of Wolflee, Mr Wilson, Professor of Agriculture, and Mr McLaggan of Pumpherston -

Meeting of Council, in an Ante Room of the National Bible Society's Hall, St Andrew Square, on 14th January 1863, at 1½ P.M. -

Present - Mr Milne Home - in the Chair -

Sir John Stuart Forbes Bart -

Mr Stephens -	Mr Leslie -
Mr Cunningham -	Dr Scoresby Jackson -
Major Hay -	The Meteorological Secretary -
Professor Balfour -	
Mr Miller, of Leithen -	The Treasurer -
Mr Johnston -	
Mr Core -	
Dr Mitchell -	

MINUTE OF COUNCIL, 22D DECEMBER 1862.

MR BUCHAN laid before the Council his Report on the Climate of Scotland in different districts, as affected by the Number of Rainy Days, the Amount of Cloud, and Hours of Sunshine; and Mr Milne Home having stated that he had read this Report, and having given his opinion of it, the Council authorized the publication of it in the next number of the Society's Proceedings.

The Council also authorize the publication of a continuance of the Sea Temperatures taken by Captain Bedford, R.N., during last Summer and Autumn, off the West Coast of Scotland.

The following gentlemen having applied to become members of the Society, their names were added to the Roll of Members, viz.:—

Robert Scott Moncrieff, Esq. of Fossoway, Dalkeith.
James D. Grant, Esq., Advocate, Edinburgh.
Dr Macgowan, Millport, Greenock.
David Smith, Esq., F.R.A.S., Birmingham.
Rev. Francis Redford, Silloth, Carlisle.
Rev. Robert Gray, Academy, Aberdeen.
Walter Scott Dalgleish, Esq., M.A., Vice-Principal of the Grange House School, Edinburgh.

The following donations have been presented to the Library since last meeting:—

Guide to the Orkney Islands. By the Rev. Charles Clouston.—Presented by the Author.

Proceedings of the Literary and Philosophical Society of Liverpool, 1861–62.—Presented by the Society.

Nederlandsch Meteorologische Jaarboek, 1861.—Presented by Dr Buys Ballot.

Results of Meteorological Observations made under the direction of the United States Patent Office and the Smithsonian Institution, from 1854 to 1859, inclusive; *two copies.* Smithsonian Report, 1860. Annual Report of Brevet Lieutenant-Colonel J. D. Graham, on the Improvement of the Harbours of Lakes Michigan, St Clair, Erie, Ontario, and Champlain, for the year 1860.—Presented by the Smithsonian Institution.

14th January 1863 -

The Minutes of last Meeting of Council, held on 22d ulto., were read, and found correct -

The Chairman submitted the Report by the Council which had been prepared by him, for the Half yearly General Meeting about to be held. The Report was approved -

The Chairman reported that Mr. Elliot of Wolflee, Professor Wilson, and Mr. McLaggan of Pumpherston, had each agreed to their being proposed to the General Meeting for election as Members of the Council, in room of those who retire in rotation.

The Treasurer reported that since the issuing of the Circular prepared by Mr. Milne Home the following parties had intimated their wish to join the Society - Vizt. -

As Life Members -

John Miller Esqr. of Leithen -

William Dlasker Esqr. M.D., Otter House -

each of these Gentlemen being an old Ordinary Member -

Archibald Ogilvie Esqr. of Old Lesion -

J. H. Erskine Wemyss, of Wemyss, Esqr., M.P. -

As Ordinary Members -

The Right Honble. Lord Binning -

Dr. Lauder Lindsay, Perth -

Charles Maitland Christie Esqr. of Durie -

David ~~Carnegie~~ Craigie Esqr., Banker, Perth -

Robert P. Newton Esqr., Kerse, Falkirk -

Mungo Campbell Junr. Esqr., Glasgow -

Thomas Ogilvy Esqr. of Corrimony, Inverness-shire -

Robert Hutchison Esqr. of Carlowrie -

Charles Tennant Esqr. of The Glen, Peebles-shire -

Thomas Miller Esqr., Share Broker, Edinburgh -

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14th January 1863 –

A. Forbes Esq.r, Drummond, Inverness –
Thomas Greig Esq.r of Glencarse –
Robert Allan Esq.r, Share Broker, Edinburgh –
Major Hope Smith, Cruikspield, Dunse –
David Stevenson Esq.r, Civil Engineer, Edinburgh –
James Aitchison Esq.r of Alderston –
Rev.d R. Tyas, Kingsley Parsonage, Frodsham –
Moses Steven Esq.r, Bellahouston, Glasgow –
proposed by Professor Wilson –
M.r Alexander Reid, Optician, Edinburgh –
Each of these Parties was unanimously admitted a Member of the Society accordingly –

It was agreed that the subject to be taken up by M.r Buchan for the next Quarterly Report should be Underground Temperature –

Arrangements were made for the Half-yearly General Meeting about to be held –

It was agreed on that, as soon as it should be practicable, the Contributions received for Life Membership should be funded –

M.r Tennant of The Glen's offer to establish a Station at The Glen was accepted – He to supply the Instruments –

Thanks were voted to M.r Guthrie, late of Carbeth-Guthrie, for his valuable "Meteorological Register 1817–1859" –

14th January 1863 -

SCOTTISH METEOROLOGICAL SOCIETY.

From E. Courant of 15 Jany 1863

The half-yearly meeting of the members of this society was held yesterday in 5 St Andrew Square. The chair was occupied by Sir John Stuart Forbes, and there was a large attendance. Among the gentleman present were--Lord Curriehill, Sir John Douglas, K.C.B.; Mr Milne Home of Wedderburn, Mr J. H. E. Wemyss, M.P.; Mr Elliot of Wolflee, Mr Welwood Maxwell of Munches, Mr R. Scott Moncrieff, Major Hay, Mr Aitchison of Alderston, Captain Thomas, R.N.; Professor Wilson, Professor Balfour, Mr Heddle of Melsetter, Dr Baikie, Mr Hope, Fentonbarns; Mr H. Stephens, Mr Miller of Leithen, Mr R. Tennent, Mr H. Reid, Mr Dudgeon, Spylaw; Mr R. Mylne, Mr Seton, advocate; Dr Scoresby-Jackson, Mr Thomas Core, Dr Arthur Mitchell, Mr Leslie, C.E.; Mr James Cunningham, Mr A. K. Johnston, Mr Thomas Key, Mr Archibald Gibson (honorary treasurer), &c. &c.

HALF-YEARLY REPORT.

Mr D. Milne Home, Convener of the Council, read the report for the past half-year, of which the following are the principal portions :—

"Since the last half-yearly meeting in June, the main work and object of the society—viz., the collecting and classifying of observations—has gone on steadily and successfully. The monthly returns from the various stations come most regularly, and are generally so complete and so correctly kept, that they now very seldom require to be returned by our secretary for explanations. During the last six months, the number of stations has increased from 65 to 72; and at almost all these new stations instruments have been supplied, without expense to the society. There have been three quarterly reports issued by the Council since the last general meeting—the one for the quarter ending 31st March; the second ending 30th June; and the third ending 30th September. In these reports, essays on the climate of Scotland, by our meteorological secretary, Mr Buchan, will be found, the practical and scientific value of which has been acknowledged by all who have perused them. One of these essays being founded mainly on observations carried on, in competition for the prize of £40 given by the society's President, the Marquess of Tweeddale, the Council cannot forbear to allude to the very great obligations under which the society and the country lie to his Lordship, for the liberality shown by him, in offering for several successive years, handsome premiums to stimulate inquiries on special points of meteorological interest. With regard to the present condition of the society, in a financial aspect, the Council are happy to be able to report a considerable increase of revenue since the last half-yearly meeting, by an accession of new members — 24 having recently joined the society. The Council continue to receive frequent donations of books of a meteorological nature—the numbers of which are now so considerable, as to form the nucleus of a valuable library. The last donation was a copy of Rear-Admiral Fitzroy's 'Weather Book,' presented by himself—a work which contains much valuable information, and by the publication of which, the author has rendered an additional service to meteorology. Three new members of Council are to be elected to replace three who go out, and the Council suggest the names of Walter Elliot, Esq., of Wolflee; Peter M'Lagan, Esq., of Pumpherston, and John Wilson, Esq., Professor of Agriculture in the University of Edinburgh—to replace John Miller, Esq., of Leithen; James Leslie, Esq., civil engineer; and Professor Balfour."

The report was unanimously approved of.

EFFECT OF THE VERNAL EQUINOX ON SUMMER.

The Chairman then laid on the table a copy of M. De Boulay's pamphlet on the weather of the summer of 1862, as predicted from the weather of the vernal equinox. M. Du Boulay's pamphlet was already well known through the public prints, and his theory that the vernal equinox to a remarkable degree predicted the weather of the following summer, had attracted great attention. Sir John then read extracts from a letter which he had received from M. Du Boulay, dated January 5th, in which he adverted to the discovery made by Mr Glaisher in one of his recent ascents, that the supposed law of cold increasing with the elevation attained did not always hold good, Mr Glaisher having encountered a temperature of 40° after passing upwards through a temperature of 16°. Sir John particularly drew attention to the suggestion contained in M. Du Boulay's letter, that it should be one of the objects of the Metereological Society each winter to give an account of the agricultural result of the season, together with the different phases which the more important crops had passed through in consequence of the weather—in short, a history of the vegetation as connected with the meteorology of the season. Sir John expressed his earnest hope that the prospect was yet in store for them that agricultural proceedings might come to be regulated by meteorology, through M. Du Boulay's theory standing the test of further time; and said that as this society had become of much service to the country from the aid given to the Registrar-General in his sanitary tables, he saw no reason why they might not render the same service in regard to agriculture. If this society should be made the medium of resuscitating those statistical tables which were intermitted through differences between the Highland Society and the Government, it would, he believed, be of great advantage to agriculture.

Mr Milne Home drew attention to the book of Mr Jennings, an English clergyman, on the weather of last summer. Mr Jennings, he said, had made this observation, that whenever there was a very large amount of east wind in March, the following summer was always exceedingly wet. In the month of March last, he (Mr Jennings) had been particularly struck with the large quantity of east wind that prevailed, which the Registrar-General had recorded as being ten or twelve times greater than the previous year. Accordingly, in summer it was observed that there was an unusual amount of south-west wind, and the usual result in a heavy rainfall, a great amount of cloud, and little sunshine, which again sufficiently explained the deficient harvest. Mr Jenning's view was that the great polar current which reached the north-east maintained a necessary equilibrium with the equatorial current which reached us from the south-west; and hence, when in spring we had an unusual quantity of north-east, it was repaid in summer by an unusual quantity of south-west wind, and hence a large quantity of rain and cloud and a deficient amount of sunshine.

METEOROLOGY IN RELATION TO HEALTH.

Dr Scoresby-Jackson read a paper on "Meteorology in its relation to Public Health." He commenced by adverting to the origin of the society, and the history of its first septennial epoch now completed. He stated the objects of the society as they were expressed in the scheme of its extended operations adopted in January 1859, and adverted to the very valuable character of the information which had been brought out in this society's annual reports. In defining the scope of his present paper, he said that the time at his disposal was too limited to enter into much detail, and he proposed at present simply to attempt to explain what his own inquiries had led him to believe concerning the influence of weather upon health in Scotland. He remarked that the casual relations subsisting between the atmospheric vicissitudes of public health was not a subject of investigation peculiar to our age. The fathers of medicine had applied themselves closely to the study of external causes; and although they did not enjoy the advantages we now possess in the form of delicate instruments in recording atmospheric phenomena, nevertheless their observations were fraught with intelligence and usefulness, and from these they had deduced a code of medico-meteorological principles which tradition had preserved for our present edification chiefly in the form of aphorisms. In contemplating the influences of the weather upon health, he said we must view the atmosphere in two aspects—first, in a condition of normal purity; secondly, as impregnated with foreign substances. In both instances, the influences upon organised creatures are exerted by means of subtle and impalpable agencies. But whilst in the latter the effects were dependent upon the presence in the air of substances which do naturally belong to it, and for which it had unfortunately a large capacity, in the former the influence was promoted by variations in the essentials of the atmosphere itself. The one class of agencies we speak of as mephitic, miasmatic, or zymotic—agencies which give rise to diseases usually of an epidemic character. The other we recognise more particularly in temperature, weight, humidity, electricity, and ozöne. Of these, perhaps none was so important as temperature, for it, indeed, in some measure regulated all the rest. Many important organs in the human constitution were under the control of temperature, and dangerous results were apt to ensue upon carelessness in protecting the body by suitable clothing. Some endemic diseases are manifestly under the control of temperature. Yellow fever appears to be one of these. It may be that other circumstances combine to awaken this malady from its slumbers; but it appears especially to follow directly the curve of temperature, and that not only as regards the natural atmospheric temperature, for it has been observed that men exposed to adventitious heat in yellow fever countries—as bakers, stokers, and the like—are peculiarly liable to the disease. [Dr Jackson then referred to a diagram, showing how the spread and diminution of yellow fever was affected by the temperature at New Orleans in 1853.] But the effects of temperature upon sickness and mortality vary according to the relation which the temperature at any given time bears to the average temperature of that time or season in any given place. Thus, a mean temperature of 60° is very high for this country; and wherever such a degree of heat prevails for any length of time, an increase of sickness invariably ensues. But a similar temperature in the south of France would be but a moderate summer heat, and in that locality the thermometer would have to mount higher before the effect would be the same upon the inhabitants there, as a temperature of 60° would exercise upon people in Edinburgh. Inversely, the same law obtains with respect to cold. The influence of temperature is more remarkable in some diseases than in others. Inflammatory diseases of the respiratory organs are particularly under its control, whilst several other classes of disease appear to possess immunity from its effects. Dr Jackson then directed attention to another diagram, showing the monthly mean temperature of Scotland from May 1859 to May 1860 inclusive, with the number of deaths from bronchitis in the eight principal towns during the same period, and remarked — Here it will be perceived that the greatest number of deaths corresponds with the period of lowest thermometer, leaving always a margin between the two to allow for the time which must necessarily elapse between the commencement of a disease and the notice of its consummation in the tables of the Registrar-General. Sudden changes of temperature are always prejudicial to health; therefore the more limited the daily and monthly range of the thermo-

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meter the better. In winter, if the thermometer falls a few degrees below the usual mean of the minima, the death-rate is invariably increased, especially if the air be dry as well as cold; and the mortality increases directly as the continuance of the abnormal cold. Extreme of temperature operates in two ways in increasing the death-rate of a locality, either by giving rise to acute fatal diseases, or by urging chronic diseases to a rapidly fatal issue. This is particularly observable in persons at the extremes of life. Amongst children, especially those of the poor, extreme cold is perhaps the most prejudicial of all external causes (certainly it is so when associated with insufficient nourishment); its effect being to induce inflammatory diseases. Amongst the aged the same condition of temperature is also fatal, but in them its effects are more frequently exhibited in imparting a fatal impetus to chronic disorders. It is obvious that valetudinarians should be especially careful to preserve a uniform temperature of body, neither exposing it to too high a temperature in summer nor to abnormal colds in winter, and, above all, to preserve it from sudden vicissitudes. It is not good to render the skin too keenly sensitive by never permitting colds to come near it, but there is a wide and important difference between judicious and careless exposure. In summer, the greatest danger from high temperature is to be apprehended between noon and four o'clock; in all seasons the greatest danger from colds attend the hours before daybreak. The effects produced upon the human constitution by those changes in the atmosphere, which are indicated by the rising and falling of the barometer, have been matters of investigation from remote ages; but hitherto little more than a vague notion exists as to the real value of barometric observations in a sanitary point of view. The influence of barometric fluctuations as a matter of strotological interest has been of late years the subject of many investigations. The influence is generally admitted, but the exact relations subsisting between the condition of atmospheric pressure and that of the public health is nowhere accurately stated. The opinion seems to be common to most observers, that a high barometer almost invariably corresponds with a high rate of mortality from all causes, and that a low barometer is accompanied by a diminished death-rate. It has also been stated, on good authority, that the influence of barometric change varies with the seasons, and that it has not a merely local character. It is, of course, understood that a high barometer indicates usually a dry condition of the atmosphere—a low barometer corresponding with more or less of humidity. It is possible that some epidemics are more or less attended with a high column of mercury—at least this connection has been frequently noticed. Dr Prout relates a curious instance which fell under his own observation, of a high reading of the barometer corresponding with the cholera epidemic of 1832. The idea has long been cherished that a cold dry air is bracing and healthful, while a humid atmosphere has been regarded, in most if not in all ages, as injurious to health. The older writers wrote much upon the combined influence of temperature and humidity, and dilated especially upon the effects of cold, moist, and sultry seasons. They refer, however, more to seasons of excessive rain and floods than to a mere saturation of the air with moisture. Droughty seasons, on the other hand, have also been condemned as prejudicial to health. Hippocrates, in one of his aphorisms, tells us that there is less danger to be apprehended from continued drought than from prolonged rain; for the latter gives rise to a maximum of disease of lingering character, whilst the former causes irritable and inflammatory diseases. Modern writers support the same doctrine, only that they state the case differently—namely, in this way:—There is more danger to be apprehended from a dry atmosphere than from humidity; for the latter condition, although it may induce a maximum of sickness, yet the diseases to which it gives birth are of a lingering but not generally fatal character; whilst the former causes irritable and inflammable diseases, which, above all others, tend to swell the tables of the Registrar-General. Most writers of the present day allow that a humid rather than a dry atmosphere is most conducive to vitality, although this does not necessarily imply that moist seasons are the most healthful. The effects producible upon the public health by the prevalence of certain winds are referable chiefly to the temperature and the amount of humidity which characterise them. I speak now only with respect to non-epidemic diseases; of course, when the atmosphere contains a poisonous element in its constitution, the effects will vary with the nature of the particular *materies morbi*. But where there is no disturbing cause of this kind, temperature and humidity are the main points for observation. Having given some remarkable examples of the different effects of wind, Dr Jackson proceeded to say:—In conclusion, permit me in a few words to refer to the great practical utility of the Meteorological Society of Scotland, in common with kindred societies elsewhere. One of the chief objects of the society is to substitute accuracy for vagueness in the expression of numerical facts. If we wish to ascertain what kind of weather attended an increase in the number of deaths—say by bronchitis—and we are told in general and convertible terms that it was bitter, raw, cold, severe, bleak, inclement, or fine and bracing—how much wiser are we? But if we are told that the mean temperature of the month was 34° of Fahrenheit, we have an expression that no one can mistake. Now, we know that the phrases usually employed to designate the character of the weather are notoriously vague, and therefore one great object of statistics collected by this society will be to substitute for such terms—which have a definite signification only in the mind of the observer—symbols whose value is recognised throughout the world. Another object of the society is to place meteorological statistics side by side with medical, agricultural, and horticultural statistics, and, when practicable, to deduce from them general laws of reciprocal action; bearing this always in mind, that maxims, aphorisms, or natural laws, unless promulgated after careful inductive research, with due regard to the accuracy and sufficiency of the data, are worse than useless; and that, being more readily retained in the memory, they are more likely to mislead the memory than a bare statement of the facts themselves. And these statistics are of infinite value to all classes of society. They are useful to physicians; they are useful to agriculturists and to horticulturists, as a perusal of the quarterly reports will abundantly testify. They are useful to assurance societies in common with the medico-meteorological statistics of other countries, without a knowledge of which these associations could never rightly estimate the risks of lives journeying in foreign lands; and the more we know of medical geography and meteorology the less will those risks appear to be. It is the vagueness of the reports that inspires us with a dread of, inasmuch as it leaves us unprepared to meet the dangers of, foreign stations. Lastly, meteorological statistics are of importance to the public generally, irrespective of class or occupation. Dangers from vicissitudes of weather beset us in every season and throughout life. Infants are swept away by them because they have not yet sufficient vital energy to combat them; adults are prone to their prejudicial effects, chiefly through carelessness; old age succumbs to them, because then the vital powers are exhausted. In short, in all that relates to the social happiness of the human family, meteorology—or, in plain words, the weather, under the control of the first great cause of all—bears a conspicuous and all-powerful part. (Applause.)

The thanks of the society were cordially tendered to Dr Scoresby-Jackson, on the motion of the Chairman.

THE STORM OF 19TH OCTOBER.

Mr Thomas H. Core read a paper on the barometric depression and accompanying storm of the 19th of October last. The data on which the paper was based were obtained principally from the returns from the society's stations, but also from observations made at the Northern Lighthouses, furnished by Mr Thomas Stevenson, from the log-books of various merchant ships, obtained from several shipowners in Leith, from the files of the *Shipping and Mercantile Gazette* and *Mitchell's Maritime Register*, and from the Board of Trade meteorological reports published in each morning's *Times*. Mr Core began by noticing the fluctuations of the barometer throughout the month of October, which he illustrated by curves for England, Scotland, and Ireland separately, pointing out particularly the extensive and remarkable oscillations that took place between the 18th and 24th, and comparing them with the average oscillations of previous years, from which they differed in three respects—1st, The magnitude and suddenness of the fall, amounting on an average to an inch in twelve hours; 2d, The gradual advance in a north-easterly direction of the depression or trough of the atmospheric wave at the rate of about fifteen miles per hour; and 3d, Its less vertical depth towards the south of Britain. Each of these three points was explained at some length, and illustrated by numerous coloured diagrams. One of these afforded a striking corroboration of the truth of the preceding statements—viz., that exhibiting the state of the barometer on board the barque Larne, then off Newfoundland, from the 13th to the 19th. The same atmospheric depression had passed over the Larne on the 16th, and had taken three days to reach this country, indicating a velocity of about fifteen miles per hour. The progress of the hurricane, of which the barometer had thus given sure warning, was next noticed, and its veering explained. It commenced on the west coast of Ireland about nine o'clock on Sunday morning, and by midnight was raging all along the east coast of Britain. Its direction at first was from the SW.; by Monday morning it had shifted to W.; and on Monday night and Tuesday morning, when it was passing off, its direction was NW. These facts, and many others, regarding the time of commencement and direction of the storm experienced by several ships on the German Ocean, Bay of Biscay, and North Atlantic, were sought to be explained by the supposition of a "cyclone," or circular whirlwind, traversing the country in a north-easterly direction. Its diameter was computed at from 800 to 1000 miles, its velocity of translation at 15 miles per hour, and its rotatory velocity at 70 miles per hour.

The Chairman moved a vote of thanks to Mr Core for his communication.

Mr Milne Home expressed his sense of the value of the paper, both scientifically and practically. It illustrated very well the manner in which Admiral Fitzroy was able to predict most of the storms with which we were visited. Mr Core had shown that the storm to which he had referred was first felt in the west of Ireland on the Sunday. Now, Admiral Fitzroy received at ten o'clock daily notice of the state of the weather from thirty different places, and if he received notice of a storm on the west coast of Ireland on the Sunday morning, he could predict its arrival in England the same evening or the following day. His telegrams from the Continent also apprised him of storms coming from the eastward.

On the motion of Mr A. K. Johnston, a vote of thanks was given to Sir J. S. Forbes for presiding.

14th January 1863.

SCOTTISH METEOROLOGICAL SOCIETY.

The half-yearly general meeting of this society was held yesterday in the rooms of the National Bible Society, No. 5 St Andrew Square—Sir John Stuart Forbes, Bart. of Fettercairn, presiding. There was a good attendance, and amongst the gentlemen present were—Lord Curriehill, Sir John Douglas, K.C.B.; Mr Milne Home of Wedderburn, Mr J. H. E. Wemyss, M.P.; Mr Elliot of Wolflee, Mr Welwood Maxwell of Munches, Mr R. Scott Moncrieff, Major Hay, Mr Aitchison of Alderston, Capt. Thomas, R.N.; Professor Wilson, Professor Balfour, Mr Heddle of Melsetter, Dr Baikie, Mr Hope, Fentonbarns; Mr H. Stephens, Mr Miller of Leithen, Mr R. Tennent, Mr H. Reid, Mr Dudgeon, Spylaw; Mr R. Mylne, Mr Seton, advocate; Dr Scoresby Jackson, Mr Thomas Core, Dr Arthur Mitchell, Mr Leslie, C.E.; Mr James Cunningham, Mr A. K. Johnston, Mr Thomas Key, Mr Archibald Gibson (honorary treasurer), &c., &c.

Daily Review REPORT FROM THE COUNCIL. 15 Jan. 63.

Mr MILNE HOME, Convener of the Council, read their report which was as follows:—

"Draft Report by Council of the Scottish Meteorological Society, to General Meeting of Subscribers, held on the 14th January 1863.

"The Council have a report to present, which they hope will be deemed in all respects satisfactory.

"Since the last half-yearly meeting in June, the main work and object of the Society, viz., the collecting and classifying of observations, has gone on steadily and successfully. The monthly returns from the various stations, come most regularly, and are generally so complete and so correctly kept, that they now very seldom require to be returned by our secretary for explanations.

"During the last six months, the number of stations has increased form 65 to 72; and at almost all these new stations, instruments have been supplied, without expense to the Society.

"There have been three Quarterly Reports issued by the Council since the last General Meeting—the one for the quarter ending 31st March; the second ending 30th June, and the third ending 30th September. In these reports, essays on the Climate of Scotland by our meteorological secretary, Mr Buchan, will be found, the practical and scientific value of which has been acknowledged by all who have perused them.

"One of these essays being founded mainly on observations carried on, in competition for the prize of £40 given by the Society's President, the Marquis of Tweeddale, the Council cannot forbear to allude to the very great obligations under which the Society and the country lie to his Lordship, for the liberality shown by him, in offering for several successive years, handsome premiums to stimulate inquiries on special points of meteorological interest.

"With regard to the present condition of the Society, in a financial aspect, the Council are happy to be able to report a considerable increase of revenue, since the last half-yearly meeting by an accession of new members—24 having recently joined the Society. This is not the meeting at which a financial statement has to be presented, as by the rules of the Society that statement is submitted only in June; but the Council take this opportunity of reminding members that this is the month when their yearly subscriptions ought to be paid; attention to which rule will save trouble to themselves and to the Society's treasurer.

"The Council continue to receive frequent donations of books of a meteorological nature—the numbers of which are now so considerable, as to form the nucleus of a valuable library. The last donation was a copy of Rear-Admiral Fitzroy's "Weather Book," presented by himself—a work which contains much valuable information, and by the publication of which, the author has rendered an additional service to meteorology.

"It is prescribed by the rules of the Society, that at this half-yearly meeting three new members of Council are to be elected to replace three who go out, and the Council are required to suggest the names of three subscribers for appointment by this General Meeting. In compliance with this rule, the Council now suggest the appointment of Walter Elliott, Esq., of Woolflee, Peter M'Lagan, Esq., of Pumpherston, and John Wilson, Esq., Professor of Agriculture in the University of Edinburgh, to replace John Miller, Esq., of Leithen, James Leslie, Esq., civil engineer, and Professor Balfour."

WEATHER PROGNOSTICATIONS.

Sir JOHN S. FORBES said, he had now to lay before the meeting a copy of Mons. Du Boulay's observations on the weather of last summer—a work which had already become well known from the notice which had been taken of it in the public prints. It was entitled, "The Summer of 1862: founded on the Vernal Equinox, with Observations on the Summers of England, coupled with Remarks on the Locality and Meteorology of Great Britain." The object of the pamphlet was to explain the principle on which this prediction is founded, with the view to induce others to take an interest in examining for themselves into its truthfulness in future years. The writer admitted that the idea was not a new one, the subject having been noticed before by the late Dr Kirwan and other scientific men. Dr Kirwan's two great maxims of equinoctial prediction were to this effect:—1st, "When north or north-east winds prevail on or about the vernal equinox, the ensuing summer is always dry;" 2d, "If a storm from west or south-west occur between the 18th and 25th March, the ensuing summer is wet four times out of five." Thus Dr Kirwan and others made "the direction of the equinoctial winds, and the writer (Du Boulay) made "the equinoctial weather carefully considered," the basis for prognosticating the summer to come. After submitting the pamphlet, Sir John proceeded to read a communication (dated from Sandgate on 5th January) which he had received from the writer on the subject. It was as follows:—"During the last ten years, I have had sufficient confidence in my views to act upon them, after every remarkable vernal equinox. Those remarkable equinoxes were five in number, a most unusually large proportion out of ten. In 1853, the equinox was very wet in Tuscany, and I purchased a little wheat at Leghorn, by way of backing up my anticipations. Result—the wheat crops were immensely injured by continuous wet, even in that usually dry and early climate. In 1858, at Sandgate, I judged the vernal equinox to be remarkable, beyond what was usual, for every element of stillness, dryness, warmth, sunshine, &c., in the atmosphere; and I paid, immediately after it, a visit to Messrs Begbie & Co. of Mark Lane, and asked them what would most fail, in the event of unusual drought, and they replied, "Beans;" so I bought some beans. Result—the bean blossom that summer, through dry weather, did not properly set in Great Britain, or in the adjoining bean-growing districts of the neighbouring continent; and the *Gardeners' Chronicle*, in its autumnal review of that year's crop, remarked to this effect, 'that they supposed such a universal failure of beans and pease was hardly known.' In 1860, I acted by communicating my views to Messrs Begbie & Co., and publishing the correspondence which contained my anticipations for that year in the *Mark Lane Express*, and that you have. Result—with the exception of May (which was warm, gentle, and wet—the 18th of March, the first day of the equinox, being warm, gentle, and wet also), the summer in England was one continuous storm from SW., W., WSW., and WNW., with two intermissions of a fortnight's duration each—viz., that comprising the first fortnight in July, and that comprising the first fortnight in September. In 1861, I published another anticipatory notice of the ensuing summer in the same paper, and that also you have. Result—May was unusually cold and dry; from middle of June to end of July a very wet period, and after that, to end of summer, a very great contrast—viz., as beautiful, warm, and sunny a season for the remainder of the summer as could be seen. I am speaking of England alone, where these equinoxes were alone observed by myself at Sandgate. In 1862, I published a pamphlet, which you have. Results—Excepting the actual quantity of rain expected, all other anticipations fulfilled in England. May warm above average; June, July, and August much below average in temperature; the whole summer sunless, cold, and damp. In regard to Mr Glaisher's recent ascents during the summer, tending to strengthen some of the views that I had previously published in the spring, you will see by that gentleman's reported discourses, and summing up of his discoveries, that on one occasion, on rising from Wolverhampton, he passed through a great depth of cloud, and above the cloud through a stratum of cold air, constantly diminishing in temperature as he still rose, till the instruments marked 16 or 18 degrees of Fahrenheit; then, when he and his companion, in anticipation of their further rise, and of the further decrease of temperature which it was at that time the rule to expect, either had put on, or were about to put on, additional clothing, they were astonished to find the temperature gradually rise as they rose, till at their highest point the temperature was 40 or 43 degrees Fahrenheit. Now, Mr Glaisher has spoken of this as a matter of astonishment to himself, and as a matter of new information for the world, which it certainly was; for, in Sir J. Herschell's most interesting recent work on Meteorology, published before this ascent, it is clearly taken for granted, in the tables and elsewhere, that the atmosphere is to be considered as always diminishing in temperature with elevation, though not always in some fixed ratio to elevation. Sir J. Herschell does casually note that one or two æronauts have passed through small portions of abnormally cold strata, connected, as it is surmised, with hail storms. And Admiral Fitzroy, in his 'Weather Book,' begins to speak much more at large about air having all sorts of temperature at different elevations; but that book has been published since Mr Glaisher's ascent, and not before it. The view which I published in the spring, and which I consider Mr Glaisher's ascent during the summer tends to confirm, is this, that upper currents of unusually cold temperature, in proportion to the temperature of the lower strata of the atmosphere about Britain, may at times come down from the north-west, and the way in which it tends to confirm its probability is, that it proves its possibility, since Mr Glaisher discovered in the British atmosphere variations of temperature according to elevation, breaking through the received rules, and which were not previously known to exist. My entire views of British weather are based on the supposition, that that state of the atmosphere in which elevation is accompanied by a somewhat regular decrease of temperature, is frequently, and not on rare occasions, broken through; and if you consider my description of the atmosphere overhead at Sandgate during the last vernal equinox, you will find that I have, during part of the period, represented the atmosphere to have consisted of a very cold, lowest stratum, proceeding from NE. or E.; above that a warmer (not lower in temperature) stratum proceeding from SSW., and above that again, another very, very cold, proceeding from NW. I will now try to illustrate the action frequently of an upper current of cold air from the NW., and thus shall explain also what I mean

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when I consider that cold summers are caused by the repetition frequently of such currents during such summers. I do not doubt that, when the atmosphere is at rest, it does tend, by the natural interchange of its higher with its lower particles, and, *vice versa*, to decline in temperature in proportion to elevation, at something like the rate of one degree of Fahrenheit for every 300 feet of elevation; and even if it is in motion, provided the upper part moves evenly with and in the same direction with the lower, this rule may still hold good. Let us, then, now imagine a column of air, two or three miles in height, thus in gentle motion from the SW., across the British Isles; the upper part moving evenly and keeping pace with the lower. There will be a good deal of aqueous vapour in it, for it has come from resting on the Atlantic; but there need be no precipitation, and hardly any cloud, for I have seen such columns passing along over England at different seasons and for weeks together, accompanied by the finest weather. Now, let us imagine a cold stream of air from the icy NW., to come down at right angles, and take the place of the upper part of the column—that is, the third mile of it above. This part is now cold beyond all proportion to the natural and regular state of things; and I consider that the result will be, that a great part of that aqueous vapour, which was passing along so quietly in the two miies of atmosphere below, as long as the third upper mile had only the normal degree of cold due to elevation, without material condensation or obscuring of the sky, will now rapidly move upwards towards the great cold, be there condensed, small drops of rain will fall from it, excessively cold, which will themselves condense a great deal more vapour, as they fall through the warm and moist atmosphere below; this again causes a real though partial vacuum below, and thus action and reaction begin and increase till that state of things, which was and would have continued a beautiful time, is turned into a tempest more or less, perhaps, by the mere change of temperature and direction of the upper part of a column of air, the change of direction sufficing also to carry continually off the heat released by the continued condensation going on up above. I have no time to explain what I mean by the passage of aqueous vapour through the atmosphere initiating a wind. It is clear a wind must begin on some principle; and I have distinctly stated in my pamphlet my belief that the winds that blow around Great Britain originate in two, and those directly opposed principles. I am no philosopher; but I hope to live and commend them to your consideration, as well as to that of the Scottish Meteorological Society in another pamphlet about the early part of April next. I have all my life taken the same interest in watching the progress of vegetation through its varying phases each year, as depending on the weather or season, and I do think that it would be interesting and in strict accord with the objects of a meteorological society, if each winter an account was given of the agricultural result of the season, together with the different phases and prospects that the more important crops had passed through, as consequent on the particulars of the weather; in short, a 'history of vegetation' as connected with the meteorology of the season." Sir John, after reading the communication, proceeded to remark that the observations made by the writer in 1858 and 1860 applied to agriculture, proved that they were correct, for it was predicted that certain articles of produce would fail that season, and it turned out accordingly. Now, that was the point to which he (Sir John) wished most particularly to direct the attention of the meeting—namely, the advantage which, as they must all admit, would be obtained if they could have a correct prognostication, a few months beforehand, as to the character of the weather which they would have during the season. It would undoubtedly have a very material effect on their agricultural proceedings; and M. Du Boulay anxiously hoped that if his theory should—as he had no doubt it would—stand the test of farther observation, it might be the means of connecting meteorology and this association more closely with agriculture. He (Sir John) hoped it was in store for them to realise this prospect. The Meteorological Society had become to a great extent statistical, on account of its statistics being used by the Registrar-General in connection with the sanitary tables. He (the Chairman) could therefore see no reason why the same advantage should not be taken in connection with agriculture, by connecting the meteorological observations with the returns in that department; and if the society were happy enough to be made the medium of reviving those statistical returns of the produce of the country which had unfortunately been discontinued, in consequence of a misunderstanding between the Highland Society and the Government, it would be a very desirable object gained, and one that would be a great benefit to the country at large. If the Meteorological Society were connected with the Government—if its observations were used and taken advantage of in connection, not only with the sanitary department, but also in connection with the agricultural statistics—he believed it would be productive of most valuable results for agriculture, that most important branch of our domestic industry. (Applause.)

Mr Milne Home said he wished, in a very few remarks, to give an exposition of the weather during the past summer, as it had a direct relation to the subject on which they had just been addressed by the Chairman. He (Mr Home) had not read the pamphlet of Mons. Du Boulay, and was not, therefore, prepared to give an opinion on his theory for prognosticating the weather. What he intended to submit to the meeting was founded on the observations of an English clergyman, Mr Jennyns, who observed that, when there was a much larger amount of east wind than usual in March the following summer was exceedingly wet. It so happened this last summer. In March last, the strong east wind that prevailed was taken notice of by the Registrar-General—the amount of east wind that prevailed during that month being three or four times greater than it had been for some eight or ten years previously. Mr Home then referred to a diagram he had prepared in connection with this subject, showing that during the first year there had been a greater quantity of rain, a less amount of sunshine, and a greater quantity of cloud than in previous years. These being the chief characteristic features of the summer, accounted for the deficient harvest of last year. There were two great currents in the atmosphere, one from the pole, coming from the north-east, the other from the equator, coming from the south-west. In order to keep up the equilibrium between these two, if they had a large quantity of north-east wind in spring the summer would be characterised by a large quantity of south-west wind, and hence the large quantity of rain and cloud, and small quantity of sunshine. (Applause.)

METEOROLOGY IN ITS RELATIONS TO PUBLIC HEALTH.

Dr Scoresby-Jackson read a paper on "Meteorology in its relation to Public Health." He commenced by adverting to the origin of the society, and the history of its first septennial epoch now completed. He stated the objects of the society as they were expressed in the scheme of its extended operations adopted in January 1859, and adverted to the very valuable character of the information which had been brought out in this society's annual reports. In defining the scope of his present paper, he said that the time at his disposal was too limited to enter into much detail, and he proposed at present simply to attempt to explain what his own inquiries had led him to believe concerning the influence of weather upon health in Scotland. He remarked that the casual relations subsisting between the atmospheric vicissitudes of public health was not a subject of investigation peculiar to our age. The fathers of medicine had applied themselves closely to the study of external causes; and although they did not enjoy the advantages we now possess in the form of delicate instruments in recording atmospheric phenomena, nevertheless their observations were fraught with intelligence and usefulness, and from these they had adduced a code of medico-meteorological principles which tradition had preserved for our present edification chiefly in the form of aphorisms. In contemplating the influences of the weather upon health, he said we must view the atmosphere in two aspects—first, in a condition of normal purity; secondly, as impregnated with foreign substances. In both instances, the influence upon organised creatures are exerted by means of subtle and impalpable agencies. But whilst in the latter the effects were dependent upon the presence in the air of substances which do naturally belong to it, and for which it had unfortunately a large capacity, in the former the influence was promoted by variations in the essentials of the atmosphere itself. The one class of agencies we speak of as mephitic, miasmatic, or zymotic—agencies which give rise to diseases usually of an epidemic character. The other we recognise more particularly in temperature, weight, humidity, electricity, and ozöne. Of these, perhaps none was so important as temperature, for it, indeed, in some measure regulated all the rest. Many important organs in the human constitution were under the control of temperature, and dangerous results were apt to ensue upon carelessness in protecting the body by suitable clothing. Some endemic diseases are manifestly under the control of temperature. Yellow fever appears to be one of these. It may be that other circumstances combine to awaken this malady from its slumbers; but it appears especially to follow directly the curve of temperature, and that not only as regards the natural atmospheric temperature, for it has been observed that men exposed to adventitious heat in yellow fever countries—as bakers, stokers, and the like—are peculiarly liable to the disease. [Dr Jackson then referred to a diagram, showing how the spread and diminution of yellow fever was affected by the temperature at New Orleans in 1853.] But the effects of temperature upon sickness and mortality vary according to the relation which the temperature at any given time bears to the average temperature of that time or season in any given place. Thus, a mean temperature of 60° is very high for this country; and wherever such a degree of heat prevails for any length of time, an increase of sickness invariably ensues. But a similar temperature in the south of France would be but a moderate summer heat, and in that locality the thermometer would have to mount higher before the effect would be the same upon the inhabitants there, as a temperature of 60° would exercise upon people in Edinburgh. Inversely, the same law obtains with respect to cold. The influence of temperature is more remarkable in some diseases than in others. Inflammatory diseases of the respiratory organs are particularly under its control, whilst several other classes of disease appear to possess immunity from its effects. Dr Jackson then directed attention to another diagram, showing the monthly mean temperature of Scotland from May 1859 to May 1860 inclusive, with the number of deaths from bronchitis in the eight principal towns during the same period, and remarked—Here it will be perceived that the greatest number of deaths corresponds with the period of lowest thermometer, leaving always a margin between the two to allow for the time which must necessarily elapse between the commencement of a disease and the notice of its consummation in the tables of the Registrar-General. Sudden changes of temperature are always prejudicial to health; therefore the more limited the daily and monthly range of the thermometer the better. In winter, if the thermometer falls

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a few degrees below the usual mean of the minima, the death-rate is invariably increased, especially if the air be dry as well as cold; and the mortality increases directly as the continuance of the abnormal cold. Extreme of temperature operates in two ways in increasing the death-rate of a locality, either by giving rise to acute fatal diseases, or by urging chronic diseases to a rapidly fatal issue. This is particularly observable in persons at the extremes of life. Amongst children, especially those of the poor, extreme cold is perhaps the most prejudicial of all external causes (certainly it is so when associated with insufficient nourishment); its effect being to induce inflammatory diseases. Amongst the aged the same condition of temperature is also fatal, but in them its effects are more frequently exhibited in imparting a fatal impetus to chronic disorders. It is obvious that valetudinarians should be especially careful to preserve a uniform temperature of body, neither exposing it to too high a temperature in summer nor to abnormal colds in winter, and, above all, to preserve it from sudden vicissitudes. It is not good to render the skin too keenly sensitive by never permitting colds to come near it, but there is a wide and important difference between judicious and careless exposure. In summer, the greatest danger from high temperature is to be apprehended between noon and four o'clock; in all seasons the greatest danger from colds attends the hours before daybreak. The effects produced upon the human constitution by those changes in the atmosphere, which are indicated by the rising and falling of the barometer, have been matters of investigation from remote ages; but hitherto little more than a vague notion exists as to the real value of barometric observations in a sanitary point of view. The influence of barometric fluctuations as a matter of strological interest has been of late years the subject of many investigations. The influence is generally admitted, but the exact relations subsisting between the condition of atmospheric pressure and that of the public health is nowhere accurately stated. The opinion seems to be common to most observers that a high barometer almost invariably corresponds with a high rate of mortality from all causes, and that a low barometer is accompanied by a diminished death-rate. It has also been stated, on good authority, that the influence of barometric change varies with the seasons, and that it has not a merely local character. It is, of course, understood that a high barometer indicates usually a dry condition of the atmosphere—a low barometer corresponding with more or less of humidity. It is possible that some epidemics are more or less attended with a high column of mercury—at least this connection has been frequently noticed. Dr Prout relates a curious instance which fell under his own observation of a high reading of the barometer corresponding with the cholera epidemic of 1832. The idea has long been cherished that a cold dry air is bracing and healthful, while a humid atmosphere has been regarded, in most if not in all ages, as injurious to health. The older writers wrote much upon the combined influence of temperature and humidity, and dilated especially upon the effects of cold, moist, and sultry seasons. They refer, however, more to seasons of excessive rain and floods than to a mere saturation of the air with moisture. Droughty seasons, on the other hand, have also been condemned as prejudicial to health. Hippocrates, in one of his aphorisms, tells us that there is less danger to be apprehended from continued drought than from prolonged rain; for the latter gives rise to a maximum of disease of lingering character, whilst the former causes irritable and inflammatory diseases. Modern writers support the same doctrine, only that they state the case differently—namely, in this way:—There is more danger to be apprehended from a dry atmosphere than from humidity; for the latter condition, although it may induce a maximum of sickness, yet the diseases to which it gives birth are of a lingering but not generally fatal character; whilst the former causes irritable and inflammable diseases, which, above all others, tend to swell the tables of the Registrar-General. Most writers of the present day allow that a humid rather than a dry atmosphere is most conducive to vitality, although this does not necessarily imply that moist seasons are the most healthful. The effects producible upon the public health by the prevalence of certain winds are referable chiefly to the temperature and the amount of humidity which characterise them. I speak now only with respect to non-epidemic diseases; of course, when the atmosphere contains a poisonous element in its constitution, the effects will vary with the nature of the particular *materies morbi*. But where there is no disturbing cause of this kind, temperature and humidity are the main points for observation. Having given some remarkable examples of the different effects of wind, Dr Jackson proceeded to say:—In conclusion, permit me in a few words to refer to the great practical utility of the Meteorological Society of Scotland, in common with kindred societies elsewhere. One of the chief objects of the Society is to substitute accuracy for vagueness in the expression of numerical facts. If we wish to ascertain what kind of weather attended an increase in the number of deaths—say by bronchitis—and we are told in general and convertible terms that it was bitter, raw, cold, severe, bleak, inclement, or fine and bracing—how much wiser are we? But if we are told that the mean temperature of the month was 34° of Fahrenheit, we have an expression that no one can mistake. Now, we know that the phrases usually employed to designate the character of the weather are notoriously vague, and therefore one great object of statistics collected by this Society will be to substitute for such terms—which have a definite signification only in the mind of the observer—symbols whose value is recognised throughout the world. Another object of the society is to place meteorological statistics side by side with medical, agricultural, and horticultural statistics, and, when practicable, to deduce from them general laws of reciprocal action; bearing this always in mind, that maxims, aphorisms, or natural laws, unless promulgated after careful inductive research, with due regard to the accuracy and sufficiency of the data, are worse than useless; and that, being more readily retained in the memory, they are more likely to mislead the memory than a bare statement of the facts themselves. And these statistics are of infinite value to all classes of society. They are useful to physicians; they are useful to agriculturists and to horticulturists, as a perusal of the quarterly reports will abundantly testify. They are useful to assurance societies in common with the medico-meteorological statistics of other countries, without a knowledge of which these associations could never rightly estimate the risks of lives journeying in foreign lands; and the more we know of medical geography and meteorology the less will these risks appear to be. It is the vagueness of the reports that inspires us with dread, inasmuch as it leaves us unprepared to meet, the dangers of foreign stations. Lastly, meteorological statistics are of importance to the public generally, irrespective of class or occupation. Dangers from vicissitudes of weather beset us in every season and throughout life. Infants are swept away by them because they have not yet sufficient vital energy to combat them; adults are prone to their prejudicial effects, chiefly through carelessness; old age succumbs to them, because then the vital powers are exhausted. In short, in all that relates to the social happiness of the human family, meteorology—or, in plain words, the weather, under the control of the first great cause of all—bears a conspicuous and all-powerful part. (Applause.)

Sir JOHN S. FORBES, in moving a vote of thanks to Dr Scoresby Jackson for his interesting paper, said it was the first of any importance that had been read on the most interesting of the objects of the society—the sanitary department; and he felt convinced that it would tend much to enhance the views hitherto held amongst its members as to the importance of that branch. (Applause.)

THE STORM OF 19TH OCTOBER.

Mr THOMAS H. CORE read a paper on the barometric depression and accompanying storm of the 19th of October last. The data on which the paper was based were obtained principally from the returns from the Society's stations, but also from observations made at the Northern Lighthouses, furnished by Mr Thomas Stevenson, from the log-books of various merchant ships, obtained from several shipowners in Leith, from the files of the *Shipping and Mercantile Gazette* and *Mitchell's Maritime Register*, and from the Board of Trade meteorological reports published in each morning's *Times*. Mr Core began by noticing the fluctuations of the barometer throughout the month of October, which he illustrated by curves for England, Scotland, and Ireland separately, pointing out particularly the extensive and remarkable oscillations that took place between the 18th and 24th, and comparing them with the average oscillations of previous years, from which they differed in three respects—1st, The magnitude and suddenness of the fall, amounting on an average to an inch in twelve hours; 2d, The gradual advance in a north-easterly direction of the depression or trough of the atmospheric wave at the rate of about fifteen miles per hour; and 3d, Its less vertical depth towards the south of Britain. Each of these three points was explained at some length, and illustrated by numerous coloured diagrams. One of these afforded a striking corroboration of the truth of the preceding statements—viz., that exhibiting the state of the barometer on board the barque Larne, then off Newfoundland, from the 13th to the 19th. The same atmospheric depression had passed over the Larne on the 16th, and had taken three days to reach this country, indicating a velocity of about fifteen miles per hour. The progress of the hurricane, of which the barometer had thus given sure warning, was next noticed, and its veering explained. It commenced on the west coast of Ireland about nine o'clock on Sunday morning, and by midnight was raging all along the east coast of Britain. Its direction at first was from the SW.; by Monday morning it had shifted to W.; and on Monday nigh and Tuesday morning, when it was passing off, its direction was NW. These facts, and many others regarding the time of commencement and direction of the storm experienced by several ships on the German Ocean, Bay of Biscay, and North Atlantic, were sought to be explained by the supposition of a "cyclone," or circular whirlwind, traversing the country in a north-easterly direction. Its diameter was computed at from 800 to 1000 miles, its velocity of translation at 15 miles per hour, and its rotatory velocity at 70 miles per hour.

Sir JOHN S. FORBES conveyed the thanks of the society to Mr Core for his excellent paper; and after a few remarks from Mr MILNE HOME, the proceedings terminated with a vote of thanks to the Chairman.

Meeting of Council, in the Society's Chambers, on 16th. March 1863, at 2 P.M.

Present - Mr. Milne Home - in the Chair -
Mr. Stephens -
Major Key -
Mr. Cox -
Walter Elliot Esqr. -
Mr. Bouverie Primrose -
Captn. Thomas -
The Meteorological Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 14th. January last, were read, and found correct.

The Chairman submitted the Paper which had been prepared by the Meteorological Secretary, on Underground Temperature, and proposed that, as it appeared to him to be susceptible of condensation, it should be remitted to Mr. Stephens for adjustment - This was agreed to - The Chairman also directed attention to a Diagram which he had had prepared, with a view to its insertion in the next Quarterly Report, if the Council should approve, on the Weather of Scotland in the Summer of 1862 - It was approved for insertion - as was, also, a Meteorological Table for 1862, compiled from the Daily Register kept at Inveresk, submitted by the Chairman -

Mr. Buchan was directed to prepare a Paper on the subject of Sea Temperatures, with a view to its publication in an early Quarterly Report - when Captn. Thomas' Reports should be

should be completed, if not sooner. Capt. Thomas stated that he expected that these Reports would be completed in a year, or thereabouts.

The Treasurer reported that, since last Meeting of Council, the following Gentlemen had intimated a wish to become Members of the Society, viz.

As a Life Member

James W. Burns Esqr., Bloomhill, Cardross.

and as Ordinary Members.

J. G. Heddle Esqr. of Melsetter.

John Gordon Esqr. of Cluny.

Archibald Jerdon Esqr., Jedfoot House, Jedburgh.

George A. Haig Esqr., Mountsden, Brechin.

Patrick Rankine Esqr., Otter House.

W. S. Macdonald Esqr., Fairyknowe, Ecclefechan.

James Alexander Esqr., Leslie, Fife.

J. W. Laidlay Esqr., Seacliffe House.

S. W. Silver Esqr., London.

David S. Moncrieff Esqr., W.S.

James Coxe Esqr., M.D., Commissioner in Lunacy.

John Coxe Esqr., Georgia.

George Tweedie Stodart Esqr. of Oliver.

James Christie Esqr., Hails.

John Macpherson Esqr., Athens, Tarbert, Loch Fyne.

William Nathaniel Fraser Esqr. of Tornaveen,

Kincardine O'Neil, 41 Albany Street.

Dr. Murray Thomson, 8 Infirmary Street.

F. Galton Esqr., London.

Each of these Gentlemen was, on the motion of the Chairman, admitted accordingly.

Mr. Buchan stated that a wish had been expressed by Mr. J. W. Burns, Bloomhill, that a Station of the Society should be established at Cardross, on Clyde;

Clyde, and by Mr. Fraser, of Tornaveen, that one should be established at Tornaveen. Mr. Buchan was directed to correspond with each of these Gentlemen, and to report to next Meeting of Council -

The Treasurer submitted a letter, dated inst., which he had received from Mr. Ogilvy of Corri:mony, and Mr. Buchan was directed to correspond with that Gentleman, and to consider whether a Station at Corrimony (in Inverness:shire) might be desirable -

A conversation took place, on the subject of Rain Gauges; and Capt. Thomas offered to send in for examination a Rain Gauge which he had been using, and which, he thought, deserved attention -

It was agreed that the subject to be taken up by Mr. Buchan for the next Quarterly Report (for March 1863) should be a Comparison of the Temperature of England and Scotland.

A conversation took place with regard to the great desirableness of Observations made at the various Light Houses in Scotland being accessible to the Society; but it was agreed that this subject should be delayed for consideration when Mr. Stevenson might be present -

Meeting of Council, in the Society's Chambers, on 10th June 1863, at Two P.M. —

Present — Mr Milne Home — in the Chair —
Mr Hope —
Mr Cox —
Dr Scoresby Jackson —
Mr Mc Laggan —
Major Hay —
The Meteorological Secretary —
The Treasurer —

The Minutes of last Meeting of Council, held on 10th March last, were read and found correct —
The Chairman mentioned that, as intimated in the Circular calling the Meeting, the more imme:diate purpose for which he had called the Meeting was the making of preparations for the approaching Half Yearly Meeting of the Society — He reminded the Meeting that the Day of Meeting of the Highland &c. Society had always been kept in view in fixing the Day of Meeting of this Society; and it was agreed that the Half Yearly General Meeting should be held, in the Museum of the Highland &c. Society, on 24th instant (that being the Day of Meeting of the Highland &c. Society) at Twelve o'clock — The Council to meet, there, at Half past Eleven —
The Treasurer intimated that, since last Meeting of the Council, the following Parties had intimated a wish to be admitted as Members of the Society, viz. —
Lord Henry Ker, Huntley Burn, Melrose —
Mr

10th June 1863.

Mr Du Boulay, Sandgate, Kent – £1.
James Bright Esqr., Belmont Place – £1.
William Blackwood Esqr., Publisher. 45 George Street – £1.1/.
Sir John Maxwell, of Pollok, Bart – £1.
Abercromby Dick Esqr., Comrie Castle – 10/6.
Abercromby R. Dick Junr Esqr., Advocate – 10/6.
John G. Iverach Esqr., Chemist, Kirkwall – 5/.
John Scott Moncrieff Esqr., C. A. – 5/.
Mr Robert S. Tait, 9 Queensferry Street – 5/.

Each of these parties was, on the motion of the Chairman, unanimously elected a Member of the Society, in terms of its Laws.

The Treasurer suggested whether, especially looking to the recent addition to the number of the Members of the Society (upwards of seventy since the Meeting of the Society in June last, subject to deduction owing to the decease or resignation of other Members) it would not be advisable to print a List of the Members, to be issued along with the next Quarterly Report – no printed List having been issued since March 1861. Agreed to, if there should be room in the Report.

Mr Buchan exhibited a Rain Gauge which had been sent to him by Captn. Thomas, as had been promised by that Gentleman at last Meeting of the Council.

Authority was given to advertise the Prize offered by the Marquis of Tweeddale for the present year.

Mr Buchan mentioned, as the result of his Correspondence with Mr Ogilvy of Dominny, Mr Burns, Cardross, and Mr Fraser of Tornaveen, that a Station had been established, and Observations were being taken, at each of these places.

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The Treasurer mentioned that, as Mr. Johnston, who was Auditor of the Society, had not yet returned from a Tour to the Holy Land &c., and might not return soon enough to audit the year's Accounts in time for his Report's being laid before the Council prior to the Halfyearly General Meeting, it was desirable that a Member of Council should be requested to examine the Treasurer's Accounts, in the event of Mr. Johnston's return being postponed. Mr. Stevenson, it was agreed, should be requested to undertake this duty.

Meeting of Council, in the Society's Chambers, on 24th June 1863, at half past Eleven, A.M. previous to the Halfyearly General Meeting of the Society.

Present. The Marquis of Tweeddale.
Mr. Milne Home, in the Chair.
Sir John Stuart Forbes, Bart.
Henry Stephens Esq.
Dr. Scoresby Jackson.
Mr. Keith Johnston.
Mr. Cox.
The Meteorological Secretary.
The Treasurer.

The Minutes of last Meeting of Council, held on 10th inst., were read, and found correct.
The T

24th June 1863 -

The Chairman submitted to the Meeting the Report which he had prepared for the Halfyearly General Meeting about to be held, and it was approved. Mr. Johnston agreed to move the approval of it in the General Meeting.

The Financial Abstract for the past year, which, in the continued absence of Mr. Johnston, and as Mr. Stevenson happened to be otherwise particularly engaged, Mr. Milne Home had kindly examined and docqueted, was on the table.

Mr. Buchan mentioned that two Gentlemen resident in the North of England had written to him on the subject of the Prize at present offered by The Marquis of Tweeddale, and that he would be glad to be instructed as to whether the Competition was to be held as open to Gentlemen who were not resident in Scotland. His Lordship, being referred to, said that he had no intention of restricting the Competition to persons resident in Scotland; and Mr. Buchan was instructed to intimate, to the Gentlemen he had mentioned, accordingly.

The Treasurer stated that since last Meeting of Council, the following Gentlemen had intimated a wish to be admitted Members of the Society - and, on the motion of the Chairman, each was admitted accordingly, in terms of the Rules.

Dr. Bruce Bremner, Streatham House, Morningside.
Pillans Scarth Esqr., W.S., Leith.
Thomas S. Lindsay Esqr., Accountant, Edinburgh.
Peter R. Murdoch Esqr., Lang Bank, Newton Mearns.
James B. Murdoch Esqr., 27 Virginia Street, Glasgow.

The Chairman laid on the table a letter which he had received from Admiral Fitzroy, relative to the modes followed on the Continent for obtaining and

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and publishing Prognostics of the weather.

Mr Johnston mentioned that, when in Syria lately, he had endeavoured to use means for procuring Observations on the Meteorology of Syria, which, it was well known, were a great desideratum; and that he was glad to say that he had met with two Gentlemen who, he had every confidence, were fully competent to act as accurate Observers, and had kindly agreed to undertake the duty, viz: Dr Chaplin, Jerusalem, and Mr Rogers, British Consul at Damascus.

The cordial thanks of the Council were given to Mr Johnston for his zealous and successful efforts toward the advancement of Meteorology in a part of the World as to which information was so peculiarly desiderated by Men of Science.

Meeting on 24 June 1863

SCOTTISH METEOROLOGICAL SOCIETY.

The half-yearly general meeting of the members of the Scottish Meteorological Society was held yesterday at 5 St Andrew Square—the Marquis of Tweeddale, President of the Society, in the chair.

REPORT OF THE COUNCIL.

Mr MILNE HOME, ~~the secretary~~, then gave in the report of the council, which was as follows:—

"Since the last half-yearly general meeting in January, 71 new members have joined the society, and 5 new stations for observations have been established.

"The names and positions of these new stations are:—Corrimony, in Inverness-shire; Tornaveen, in Aberdeenshire; Cardross, in Dumbartonshire; Glen, in Peeblesshire; Slogarie, in Kirkcudbrightshire.

"The instruments for these stations have all been supplied without expense to the society.

"The total number of stations at which observations are made, and from which monthly returns are regularly sent to the society's office, is now 76.

"Since the last half-yearly meeting of the society, there has been no opportunity of publishing more than one quarterly report of proceedings—viz., for the three months ending 31st December 1862.

"The council refer with satisfaction to the statement which is in that quarterly report on underground temperature, drawn up by our meteorological secretary, Mr Buchan, and founded on observations made at some of the society's stations. This statement contains valuable information bearing on the special subject investigated, and also explanations of a practical character applicable to the cultivation of the soil.

"The council are happy to be able to state, that the society's quarterly reports, probably because of their more practical character, are finding favour even among those who are not connected with the society. During this year and the last, 200 copies of these reports have been sold, independently of those which members and observers for the society have a right to obtain gratuitously.

"It is only due to the Marquis of Tweeddale, our President, to mention, that he, this year, most generously renews his prize of £20 for the best set of twelve months' observations on the temperature of land drained and undrained. Last year, these observations were required to be made on land growing turnips and also on mountain pasture. For both of these branches, the council know that observations have been carried on. This year, the observations are to be on land drained and undrained growing wheat or barley. The advertisement was sent to the newspapers only about 10 days ago; and already several persons have intimated their intention of competing,—two of whom reside in Northumberland. The council have agreed, having also the consent of the Marquis of Tweeddale, that these observations should be accepted, though carried on beyond Scotland.

"The council, as required by the rules of the society, submit to this half-yearly meeting an abstract of the society's finances, showing the amount of receipts and expenditure for the past year."

Mr KEITH JOHNSTON, in moving the adoption of the report, stated that during his recent visit to Palestine he had had great difficulty in obtaining meteorological observations. He set himself to search for men who would be capable of conducting such observations in connection with this society, and he was fortunate in getting two gentlemen who he believed would do the work well, one of them being a medical man at Jerusalem, and the other the British Consul at Damascus. These gentlemen having agreed to become the observers of the society for Palestine, he had to propose that the society grant them the necessary instruments.

Sir JOHN FORBES thought the society was much indebted to Mr Johnston for his having kept it in mind during his travels in the East, and for having hit upon a very desirable plan of making them aware of the climatology of Palestine.

Mr MILNE HOME was glad that Mr Johnston had brought this matter before the meeting, and he hoped the members would have no difficulty in remitting the proposal of Mr Johnston to the council with an expression of approval.

This was agreed to, and the report of the council was then unanimously adopted.

WEATHER PROGNOSTICS.

The Marquis of TWEEDDALE then congratulated the society on the increase of its membership which had taken place since the last meeting, and remarked on the large amount of useful information which it had been the means of laying before the public. Ever since the society was formed, he said, he had endeavoured as far as possible to encourage it, and to make it truly a practical society, because, as had been observed recently by Professor Forbes, he felt that there was a great want of information to enable people to understand thoroughly the phenomena of nature. Having that view, and wishing to increase our knowledge of "weather wisdom," he had asked Dr Mitchell to prepare some statistics on the subject, and these he had now to submit to the society. These "Popular Weather Prognostics of Scotland" were then laid on the table, accompanied by a lengthy paper on the subject from Dr Mitchell. The Chairman, after reading the paper, concluded by announcing his intention of offering such a prize in connection with this subject as would induce men of science to come forward and give explanations in regard to it.

Mr M'LAGAN, of Pumpherston, proposed a vote of thanks to the noble Chairman for his liberality on this and former occasions towards the society.

Mr HENRY STEPHENS seconded the motion, which was cordially carried.

Mr H. MILNE HOME then submitted a statement regarding the rain falling in the Isle of Skye, after which a cordial vote of thanks was awarded to the Marquis of TWEEDDALE for his conduct in the chair.

SCOTTISH METEOROLOGICAL SOCIETY.

From Scotsman of 26 June 1863.

The half-yearly general meeting of the members of the Scottish Meteorological Society was held on Wednesday in 5 St Andrew Square. The Marquis of Tweeddale, President of the Society, occupied the chair, and there was a numerous and influential attendance.

MILNE HOME ON RAIN—ENGLISH AND SCOTCH CLIMATES.

Mr Milne Home [redacted] gave in the report of the council, which was as follows:—

"Since the last half-yearly general meeting in January, 75 new members have joined the Society, and five new stations for observations have been established.

"The names and positions of these new stations are:—

Corrimony, in Inverness-shire.
Tornaveen, in Aberdeenshire.
Cardross, in Dumbartonshire,
Glen, in Peeblesshire.
Slogarie, in Kircudbrightshire.

"The instruments for these stations have all been supplied without expense to the Society.

"The total number of stations at which observations are made, and from which monthly returns are regularly sent to the Society's office, is now seventy-six.

"Since the last half-yearly meeting of the Society, there has been no opportunity of publishing more than one quarterly report of proceedings, viz.—for the three months ending 31st December 1862.

"The Council refer with satisfaction to the statement which is in that quarterly report on underground temperature, drawn up by our meteorological secretary, Mr Buchan, and founded on observations made at some of the Society's stations. This statement contains valuable information bearing on the special subject investigated, and also explanations of a practical character applicable to the cultivation of the soil.

"The Council are happy to be able to state that the Society's quarterly reports, probably because of their more practical character, are finding favour even among those who are not connected with the Society. During this year and the last 200 copies of these reports have been sold, independently of those which members and observers for the Society have a right to obtain gratuitously.

"It is only due to the Marquis of Tweeddale, our president, to mention, that he this year most generously renews his prize of £20 for the best set of twelve-months' observations on the temperature of land, drained and undrained. Last year these observations were required to be made on land growing turnips, and also on mountain pasture. For both of these branches, the Council know that observations have been carried on. This year, the observations are to be on land, drained and undrained, growing wheat or barley. The advertisement was sent to the newspapers only about ten days ago; and already several persons have intimated their intention of competing—two of whom reside in Northumberland. The Council have agreed, having also the consent of the Marquis of Tweeddale, that these observations should be accepted, though carried on beyond Scotland.

"The Council, as required by the rules of the Society, submit to this half-yearly meeting an abstract of the Society's finances, showing the amount of receipts and expenditure for the past year."

Mr Keith Johnston, in moving the adoption of the report, stated that during his recent visit to Palestine he had had great difficulty in obtaining meteorological observations. He set himself to search for men who would be suitable to undertake this duty, and he was fortunate in getting two men who he believed would do the work well, one of them being Dr Chaplin, Jerusalem; and the other Mr Rogers, British Consul at Damascus. These gentlemen having agreed to become the observers of the Society for Palestine, he had to propose that the Society grant them the use of instruments.

Sir John Forbes thought the Society was much indebted to Mr Johnston for his having kept it in mind during his travels in the East, and for having hit upon an excellent mode of making them aware of the climatology of Palestine.

Mr Milne Home was glad that Mr Johnston had brought this matter before the meeting, and he hoped the members would have no difficulty in remitting the proposal of Mr Johnston to the Council with an expression of approval. The report of the Council was unanimously adopted.

The Chairman congratulated the Society upon the increase of its membership, as well as of the information it was enabled to supply to the public. He then read a return by Dr Mitchell of prognostics of the weather to which Scotland was subject, and concluded by intimating that he would give such a prize in connection with this subject as would induce men of science to come forward.

Mr M'Lagan of Pumpherston proposed a vote of thanks to the noble chairman for his liberality on this and previous occasions.

Mr Henry Stevens seconded the motion, which was cordially adopted.

Mr Milne Home stated that he had been requested by the Council of the Society to bring before this meeting two subjects in which it was thought members might feel an interest; one was the amount of rainfall in the island of Skye, the other was the result of an investigation which had recently occupied Mr Buchan into the comparative merits of the English and Scottish climates. A gentleman well acquainted with the west coast, who is a member of the Society, and a good meteorologist, had questioned the accuracy of the returns of rain sent from the Society's station at Portree, and particularly directed the attention of the Council to the large amount of the rainfall there as a subject deserving investigation. The Council felt extremely obliged by

having their attention called to the subject, their object being not only to ensure correctness in the observations at the Society's stations, but also to inspire confidence in them. They, therefore, requested the gentleman who had questioned them to find some one in Skye, not far from Portree, who could be trusted to undertake to register the fall of rain, and thus obtain means of testing the accuracy of the Portree returns. Such a person had accordingly been found—viz., F. Fraser, Esq., Sheriff-Substitute of Skye, who during the months of March, April, and May last had carefully registered the rain at his own residence, situated about two miles SE. of Portree. Mr Home stated that the total amount in the return for the year 1861 at Portree had been 139 inches, and in 1862 111 inches, and that during the three months above stated the amount at Portree was 22 inches, and at Sheriff Fraser's residence 18 inches. He further stated that the check had been applied without the knowledge of the observer at Portree. The result of this trial was to satisfy the Council of the accuracy of his returns. In the first place, it appeared that there were several other stations in the west of Scotland at which there was a greater rainfall than at Portree; in the second place, the mean of the three months, March, April, and May, in the years 1861-2, was 22 inches, as in the present year; and, in the third place, it was manifest from the position of the two stations in relation to the adjoining hills that considerably less rain would naturally fall at Sheriff Fraser's than at Portree. With reference to this point, it was explained that the Portree rain-gauge was very near the foot of a range of hills above 1000 feet high, situated to the south-west; whilst to the south-west of Sheriff Fraser's rain-gauge there were no hills nearer than six miles, and that the only hill near it was one situated to the south-east, about 1200 feet high. It appeared, on examining the quantity of rain which had fallen during the prevalence of the westerly winds during the three months, 18 27 inches had fallen at Portree, and 12 47 inches at Sheriff Fraser's; whilst during the easterly winds in the same period the quantity of rain which fell at Portree was 4·44 inches, and at Sheriff Fraser's, 5 95 inches. So that, as the westerly winds blew for a longer period than the easterly, and was more highly saturated with moisture, greater condensation necessarily would take place over Portree. He thought, therefore, the meeting would be pleased that this investigation had taken place, as it had established the correctness of the Society's return at this particular station, and as it served to illustrate certain important principles of a general character. Mr M. Home then proceeded to notice the other subject to which he had adverted—viz., the difference between the climates of England and Scotland, regretting that the time of the meeting did not permit him to do more than merely allude to the nature and value of the investigation in which Mr Buchan had been recently engaged on that subject. This, however, was the less to be regretted as it would be published in the next number of the quarterly proceedings. He might only now mention that in this report, which lay before him on the table, the distinctive features of the two climates in respect of temperature, rain, cloud, and wind had been fully and clearly brought out, as also between different parts of each country, and at the same time satisfactory explanations were given to account for the marked difference which existed between the two countries, and between different districts and different seasons. There were also practical applications indicated of the whole subject bearing upon agricultural crops and upon general health. In particular, those parts of each country most favourable for health in the different seasons of the year were pointed out, and, in illustration of the way in which the subject had been handled, he would quote from Mr Buchan's report the following passage:—"The remark which has been made with regard to the influence of hills in determining the climate of a place is in Britain only strictly applicable to places on the west of the watershed of the island. This important distinction between places in the west and places in the east, otherwise similarly situated with respect to hills, must be kept carefully in view, since it makes all the difference between a dry and a rainy climate. Hence the driest, coolest, and consequently most bracing and invigorating summer climates which Great Britain possesses are in the high districts which lie on the eastern slope of the island. Of these, the first place must unquestionably be assigned to the upper parts of Deeside, on account of the more elevated position—the high and wide platform of the hills, over which the south-west winds must pass before reaching it, and their consequent dryness—and the greater length of the day owing to its higher latitude and its balmier and clearer nights. The summer advantages of this district, and of Donside adjoining, are so great that oats and barley are successfully cultivated up to the great height of 1600 feet above the sea, which is 400 or 500 feet higher than at any other place in North Britain; at 1200 feet, oats are only grown for the sake of their straw among the Pentlands and Leadhills. It is obvious to remark that Balmoral, Her Majesty's Highland residence, is favoured with what may be justly considered as the finest and healthiest summer climate anywhere to be found in the British Isles. Upper Strathearn and other parts of Perthshire, the high grounds of the Lammermoors, Innerleithen, Moffat, the West of Yorkshire, Malvern, and the eastern parts of Wales, may be referred to as possessing, though in a less marked degree, the same bracing and invigorating summer climates." He begged, in conclusion, to say he was sure that the members would be gratified with the able manner in which the distinctive features of the climates of Scotland and England had been exhibited in this report, and also with the important practical uses to which the principles deduced had been applied.

A vote of thanks to the noble chairman concluded the business of the meeting.

3 July 1863.

Meeting of Council, in the Society's Chambers, on 3d July 1863, at 2 o'clock, P.M. –

Present – David Milne Home Esqr. in the Chair –
James Cunningham Esqr. –
Dr. Scoresby Jackson –
Mr. Ure –
Mr. Johnston –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting of Council, held on 24th ulto., were read, and found correct –

The Chairman mentioned his having revised the Quarterly Report about to be issued, so far as already prepared, and arrangements were agreed on as to what other matter should be embraced in the Report –

The subject which Mr. Buchan should next take up was then considered and it was agreed that the Rainfall in Scotland, for the six years to January 1863, should be the subject next taken up – And Mr. Buchan was requested to keep in view an investigation of the character of the different seasons of the year, beginning with the Quarterly Report after next one –

It was decided that the Rain Gauges formerly submitted by Mr. Stevenson and Captn. Thomas should be sent by Mr. Buchan to Mr. Symond, with his answer to Mr. Symond's Letter to the Chairman, dated 25th ulto. –

The next subject considered was the furnishing of Instruments to the Observers at Damascus and Jerusalem – On Mr. Johnston's recommen:dation it was agreed that the Instruments should be

should be sent by way of Liverpool, through Gentlemen there whom he named, and that they should consist of Barometer, Thermometer, Hygrometer, and Rain Gauge (Mr. Stevenson's).

The Treasurer mentioned that, since last Meeting of Council, the following Parties had intimated their wish to be admitted Members of the Society, and, on the motion of the Chairman, they were admitted accordingly, in terms of the Rules, Viz.—

As a Life Member—
Kenneth Mackenzie Esqr., C.A., Edinburgh—

As Ordinary Members—
James Pillans Esqr., late Professor of Humanity in the University of Edinburgh—
Miss Baillie (Polkemmet) Manuel House, Linlithgow—
William John Aitchison Esqr., 6 Archibald Place—
James Gibson Thomson Esq., Wine Merchant, 14 York Place—

It was agreed that a new Rain Gauge (at 3/6) should be furnished to the Observer at Girvan, from whom the one formerly sent to him had been stolen—

The Chairman mentioned what had passed between the Marquis of Tweeddale and himself as to the publication of the List of Proverbial Sayings on Weather Prognostics, and Dr. Mitchell's Letter regarding it—and that they had agreed that both should be published in the Edinburgh Philosophical Journal— The Chairman kindly agreed to write to Dr. Mitchell, mentioning the use that was proposed to be made of his Letter and the List—

The Chairman read a letter which had been received, by Mr. Buchan, from Mr. John Galloway, Ardrossan, dated 28th ulto., suggesting corre:spondence

:spondence with Mr E. Smith, Thebes, an American Gentleman with whom Mr Galloway had met when in Egypt last Winter, and whom he had understood to say that he had made Observations for some years, and who, he had no doubt, would be willing to furnish the Society with Copies of his Observations, should they be wished - Mr Galloway asked, also, whether Observations made at Pau, Basses Pyrenees, would interest the Society, and mentioned that a friend of his, resident at Pau, takes them for his own amusement - Mr Buchan was directed to write to Mr Galloway, thanking him for his communication, and requesting that he would procure for the Society, from his friend at Thebes, a Copy of the Observations taken by him there, which would be much prized by the Council - As regards Pau, Mr Buchan was di:rected to request Mr Galloway to mention the name of his friend there, as Dr Scoresby Jack:son, a Member of the Council, expected to be there in the course of a month, and had kindly agreed to communicate with Mr Galloway's friend on the subject mentioned in Mr G's letter -

Meeting of Council in the Society's Chamber on 14th September 1863, at two P.M.

Present – Mr Milne Home in the Chair –
Mr Stephens –
Dr Mitchell –
Mr Cox –
Mr Stevenson –
Dr Jackson –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting of Council, holden 3rd July last, were read, and found correct –

The Chairman mentioned that he had requested Admiral FitzRoy, who had kindly agreed, to send to two of the Society's Observers at Damascus and Jerusalem two Barometers, to each of these places; and that these instruments had, accordingly, been sent, while the others had been forwarded, for this Society, by Mr Buchan. Thanks were voted to Admiral Fitzroy.

As regards Pau, Dr Scoresby Jackson, who had lately visited Pau, reported that while there he had not had an opportunity of communicating with Mr Galloway's friend, owing to that Gentleman's absence from Pau at the time.

Mr Buchan reported that, during a late tour in the West Highlands, he had visited the following Stations of the Society, viz:– Oban – Iona – Culliton Mor – ~~Loch Lee~~, Balloch Castle, Loch Lomond – Tyndrum, in ~~Glen~~ Dochart – Greenock – Paisley – also Aberdour and Balfour, in Fife – and

He

THE CLIMATES OF ENGLAND AND SCOTLAND.

From Scotsman of Aug. 1, 1863.

THE Quarterly Report of the Meteorological Society of Scotland for the quarter ending 31st March 1863, which has just appeared, is of more than usual interest, from the important paper it contains, by the Secretary, on "The Comparison of the Climates of England and Scotland." The comparison is based on observations made at fifty-nine stations in Great Britain, under the superintendence of the British and Scottish Meteorological Societies, during the five years beginning with 1857 and ending with 1861. And as many facts of much practical utility are elicited, we give a few extracts from the paper, referring to the report itself for fuller details.

The first point taken up is the mean annual temperature of the two countries, and it appears from tables appended to the report that the mean temperature of England is 49·5°, while that of Scotland is 46·5°, or 3° lower. In 1859, however, the temperature of England was 4½° higher, owing principally to an unusually hot summer; while in 1860 and 1861, it was only 2½° higher. The cause of this small excess was different in the two years. In 1860, it was caused by the low summer temperature of England, the temperature of July being actually the same in the two countries; whereas, in 1861, it was caused by the unusually low winter temperature of England, the months of January and April being actually colder there than in Scotland. The near approach to equality of the summer temperature of the two countries in 1860 is shown in the report to be due to the unusual prevalence of clouds in the atmosphere during that summer. Clouds affect the temperature of a place in two ways. During the day they intercept the sun's rays, and thus lower the temperature; but throughout the night they serve as a covering to the earth, preventing the heat it has received from being dissipated, and thus maintain the night temperature at a higher point. The first or positive effect, exceeding in amount the second or negative effect, should serve on the whole to lower the temperature, and the more relatively as the place is more to the south. This result of observation is in accordance with the *à priori* deductions of reason; for if the whole earth were covered with a thick veil of clouds which did not permit one single ray of heat to penetrate it, there is no reason why the temperature of the equator should differ from that of the poles.

The difference of temperature of the two countries throughout the months of the year is next considered. In winter the temperatures are nearly equal, England being sometimes above Scotland, sometimes below it. The excess of the temperature of England increases as the temperature rises—amounts to 5° in July and August, and then decreases as the temperature falls. Though the summers of England are thus warm, they are, on the other hand, more variable than those of Scotland; for while the latter never deviate much from the mean, the former are sometimes 2½° above, and sometimes as much below the average. Hence, in cold backward seasons, the amount of damage sustained by the crops in England may be expected to be proportionally greater, and spread over a wider area—

"There is another important fact which a comparison of the temperature of the months presents—viz., the comparatively greater difference of temperature between the two countries in March and in October. The first decided increase of temperature occurs in England in March, while in Scotland this takes place in April, a month later; and the first decided fall in the temperature in England occurs in November, while in Scotland it occurs in October, a month earlier. In this manner, England is favoured with an earlier spring, and enjoys a longer continuance of the warmth of summer. When the temperatures of the two countries are compared for the whole year, we come to the conclusion that the summer heat of England is greater than that of Scotland, and is spread over a larger portion of the year; while the English winters, though of nearly equal intensity, are of much shorter duration."

On arranging the fifty-nine stations into three groups—the west coast, the inland, and the east coast—it appears that the mean temperature of the west coast stations exceeds those of the others (which are nearly equal) by fully a degree. The principal cause of this difference is the existence of a warm current in the Atlantic which strikes on the west coast of Great Britain, and imparts to it its higher temperature. But not only is the mean temperature of the west coast higher than that of the east, it is also more equable—*i.e.*, warmer in winter and cooler in summer. For instance, the winter temperature of Truro is 43·6°, while that of Greenwich is only 39·3°; the summer temperature of Truro is 61·5°, and of Greenwich, 63·5°;—

"It farther appears from the tables that the higher winter temperature on the west coast is due to the warmer nights. This, again, depends on the great predominance in winter of the south-west winds which arrive on our western shores bringing the high temperature of the ocean they have just crossed; at the same time, being cooled by coming in contact with the sur-

face of the earth—at this season many degrees colder than the Atlantic—their superabundant vapour is condensed into clouds, which partially screen the west coast from those intense colds which are produced by nocturnal radiation. On the other hand, the south-west winds are rapidly cooled as they proceed north-eastward; and being drained of much of their moisture, the skies are clearer, and thus less obstruction is offered to radiation. The consequence is, that the most intense frosts are of frequent occurrence in the central and eastern districts, while on the west coast they seldom or never occur. An examination of these tables shows that the greatest cold is felt in places situated in narrow valleys enclosed by hills, or in wide open plains, especially if lying to the east or north-east of mountain ranges; and the places where the nights are mildest, and intense frosts are but little known, are in the west, and particularly where the ground slopes down to the sea."

As to the rainfall, the result of the comparison is that Scotland, taken as a whole, owing to its more mountainous character, and the comparatively small extent of its plains, is noted for greater frequency and larger precipitation of rain than England. The parts of the island where least rain falls are the Eastern Plain, the Great Central Plain, and the Yorkshire Plain in England, and the Merse and Strathmore in Scotland; and in these Scottish plains the fall is at least not greater than in the English plains, the annual amount being about twenty-five inches.

"COMPARISON OF THE CLIMATES WITH RESPECT TO THE CROPS.

"Investigations into the subject of climate become of vital importance to the British farmer when it is considered that the summer temperature of even the south of England is, on the average, only 4° higher than the minimum summer heat required for the perfect maturing of the wheat and barley crops; while generally Scotland is only 2° above this critical point, and in the extreme north of the island the limit of cultivation is reached. Hence the disastrous effects of such cold summers as 1862 on the wheat crops of Britain, and the consequent ruin to the farmer which in so many cases has been the result. As the summer temperature does not follow the usual law of the mean annual temperature in falling 1° for every 300 feet of elevation, but is in many cases as high as at some hundreds of feet lower down in the plains, it has been found that wheat may be cultivated in much more elevated situations than was formerly believed possible. Thus the best quality of wheat has been produced on the farms of the Marquis of Tweeddale, in East-Lothian, at 750 feet above the sea. It is probable that wheat may be grown successfully in England upwards of 1000 feet high. But in pursuing wheat cultivation to such heights, especially in England, the additional risk ought to be well considered. We say, especially in England, for it has been already shown to be a distinguishing feature between the climates of the two countries that in cold, wet, and cloudy seasons the summer temperature of England is lowered to a greater extent than that of Scotland—an obvious consequence of the more southern position of England. Consequently it happens in bad seasons, owing to the greater lowering of the temperature, that the damage sustained in the higher districts of England is greater, and the loss more complete, than in Scotland. Thus, while the Scottish farmer has a lower summer temperature to contend with, the element with which he contends is less capricious, and more to be relied on.

"As oats suit a poorer soil and a wetter and colder climate than wheat or barley, the western and more elevated parts of the island are best adapted for the cultivation of this grain. In the higher and wetter parts of the country it supplies the place of the finer cereals; and, considering the difference in the climate and soils of the two countries, it is more peculiary a Scottish grain.

"The Scottish climate is on the whole better suited for the cultivation of the turnip than England. As this root requires frequent showers in the earlier stages of its growth, and as rain falls in Scotland during July and August three days more frequently than in England, it is obvious that the advantages of the Scottish climate are very decided. On the other hand, since winter falls a month earlier in Scotland than in England, the autumn growth of the turnip will be longer continued in England. The later autumn rains and the later approach of winter in England seem to point to a later sowing of this root as more suitable to the climate."

"COMPARISON OF THE CLIMATES AS TO HEALTHINESS.

"*Winter Residences.*—First of all, it may be laid down as an indisputable fact that the winter climate of no locality in Great Britain combines the two requisites of warmth and dryness; for if the climate be dry, the high latitude and long nights being productive of great cold by radiation, and the sun's rays being weak, the temperature must of necessity be low. Hence, in the case of diseases which require for their treatment in winter a climate both dry and warm, southern latitudes must be sought.

"The next noticeable point is, that the North Sea seems to have no effect on the mean winter temperature of the east coast, except to modify in a slight degree the intensity of great frosts. As the effect of latitude is scarcely felt in Britain during winter, it follows that the winter temperature of the whole of the eastern slope of Britain is the same from the Pentland Firth to the Downs south of the Thames; consequently, in seeking a milder winter climate, a journey southward, unless directed to the west coast, is followed by no practical advantage.

"It has been shown that the winter temperature of the whole of the west coast, even to the Bristol Channel, is uniform, as far as observation has gone. Hence Scotland is quite as favourable for winter residences as the greater part of the west of England. But on arriving at the Undercliff in the Isle of Wight, and at the extreme south-west of England, the winter temperature rises about two degrees. This is a most remarkable fact, and is certainly deserving of further investigation."

he mentioned the directions he had given in con:
:sequence of observations which had occurred to him.
These were approved by the Meeting.

The Treasurer reported that since last Meeting of Council the following parties had intimated a wish to be admitted to the Membership of the Society, and on the motion of the Chairman, they were unanimously admitted, in terms of the Rules viz:– As Life Members.

William F. Blair Esqr. of Blair, Captn., R.N.	£5. – . –
Professor Swan, St. Andrews	5. 5. –
John Ramsay Esqr. of Kildalton, Islay	5. 5. –

As Ordinary Members –

Colonel McDonald of Logan	£1. – . –
Colin G. Campbell Esqr. of Stonefield, Tarbet	1. – . –
Edward L. I. Blyth Esqr., Civil Engineer, Edinr.	1. 1. –
The Honble. George D. Dalrymple, Ulbister House, N. Berwick	1. – . –
John Deans Esqr., Hedderwick Hill, Dunbar	1. – . –
W. H. Muir Esqr., 18 Picardy Place	– . 5. –
William Loudon Davidson Esqr., Inspector General of Hospitals, Retired List, Madras Army	2. – . –
Major Genl. W. S. Balfour, Albyland, Dumfries	1. 1. –
William Colvin Esqr. of Craigielands, Moffat	– . 5. –
Professor Gamgee, Edinburgh	– . 10. –
Miss Farquharson, 31 Stafford Street	– . 5. –
John Murray Esqr. of Wooplaw, Melrose	– . 10. –
John Smith Esqr., 252 Union Street, Aberdeen	– . 5. –
David Donaldson Esqr., Free Normal School, Glasgow	– . 10. 6

Mr. Coe was requested, and agreed, to prepare a paragraph for the Newspapers, noticing the chief matters that have been before the present Meeting, and with a List of the Names.

14th September 1863 –

Names of the Parties admitted, as Members, at this Meeting.

Arrangements were made as to what were to form the Contents of the forthcoming Quarterly Report. These to be, inter alia a Paper by Mr Buchan on the Rainfall in Scotland; and an additional communication from the Chairman concerning the different methods of forecasting the Weather in Holland and in Britain.

Mr Buchan to acknowledge receipt of a communication from Professor Piazzi Smyth relative to this Society's assisting in the Conversazione to be given to the Coming Meeting of the Social Science Association, to be held next month, and to say that the Council gladly agreed to avail themselves of the Professor's suggestion; and directions were given as to the carrying of it out – Among other things, some of the Society's Instruments, Schedules, and Diagrams, to be exhibited on the occasion –

Mr Buchan mentioned that Professor Piazzi Smyth had complained of the defectiveness of the late Barometric Returns from the Station at Taymouth Castle, and that he had, himself, been in correspondence with the Observer on the subject. Directions were given as to the steps for rectifying what was complained of.

The Treasurer to write to Mr Malcolm of Poltalloch, expressing the pleasure felt by the Council through Mr Buchan's report of his visit to the Station at Callton Mor, and of the friendly readiness with which Mr Malcolm adopted any suggestions offered by Mr Buchan –

On the suggestion of Dr Jackson, who brought the subject, in detail, before the Council, a Committee

1st. September 1863 –

Committee was appointed for considering the expediency of the Society's using means for having Observations taken at Foreign and British Sanitaria, of Meteorological facts, toward the promotion of Medical Climatology, as a Science – The Committee to consist of Dr. Mitchell, Mr. Stevenson, Mr. Johnston, and Dr. Jackson – Dr. Jackson to be Convener – Report to be laid before next Meeting of Council –

A conversation took place on the subject of the collection of Weather Prognostics recently made by Dr. Mitchell, and the expediency of having the Collection published, separately from its appearance in the Philosophical Journal; and Mr. Buchan was directed to confer with Professor Balfour on the subject, in order to the Society's obtaining 200 Copies, or thereby, of it – Dr. Mitchell kindly agreed to co-operate with Mr. Buchan on the whole subject –

Mr. Buchan laid on the table the only two Returns which had been made under The Marquis of Tweeddale's offer of two prizes for Observations on the difference between Drained and Undrained Land in their produce, in Hill and Level situations; these Returns having been made by Mr. Garnock, North Esk Reservoir, and Patrick Rankin Esq., Otter House –

SCOTTISH METEOROLOGICAL SOCIETY.—At a meeting of the Council of the Scottish Meteorological Society, held yesterday — Henry Stephens, Esq., in the chair, the minutes of last meeting having been read and approved, Mr K. Johnstone read to the Council two letters he had received from the observers at Damascus and Jerusalem, intimating that they had received the instruments sent by the society all safe, with the exception of a mercurial maximum thermometer, which was broken. The Council consented to send out another, and Mr Johnstone agreed to arrange for its careful transmission. A letter was next read from Major Hay, at present residing at Westport House, County Sligo, holding out the prospect of his being able to furnish information, to some extent, on the rainfall of that part of Ireland where he now is. Mr Johnstone then read a letter from the Marquis of Tweeddale, suggesting that, in addition to the simple record, by the society's observers, of the direction of the wind, and to make these returns more useful, some information should be given as to any hills, in the neighbourhood of the station, that would cause local currents different in direction from the general currents in the atmosphere. It was agreed, on the suggestion of the chairman, that it would be very desirable to procure, from the various observers, a description of the physical geography of their respective localities. Dr Scoresby Jackson requested permission to delay, till next meeting, the report of the sub-committee on Medical Climatology. Leave was granted; and Mr Cunningham was added to the sub-committee. Consideration of the subject for next quarterly report, as well as of the mode of publishing the reports in future, was delayed till the next meeting of the Council, to be held at an early date. Mr Buchan mentioned that the observer at Pittenweem had been affected with a serious illness, and would, he feared, be unable to continue his valuable services. Mr Buchan was directed to express to him the Council's sympathy, and to award him their best thanks for his services, and, at the same time, to request him to give them the benefit of his advice in the appointment of a successor. Thereafter, the treasurer intimated that applications for admission to the membership of the society had been made on behalf of the following gentlemen:—Sir James Fergusson of Kilkerran, Bart., M.P.; John Galloway, Esq., Ardrossan; Edmund Baxter, Esq., W.S.; Robert J. Thomson, Esq., Grange, Kilmarnock. From Daily Rev. of 7 Oct. '63.

6th. October 1863.

Meeting of Council, in the Society's Chamber, on 6th. October 1863, at 2 P.M. —

Present —
Mr. Stephens —
Mr. Johnston —
Mr. Cunningham —
Dr. Jackson —
Mr. Cox —
Dr. Mitchell —
The Meteorological Secretary —
The Treasurer —

Mr. Buchan mentioned that Mr. Milne Home had requested him to make his apology for his absence from this Meeting, through his absence from Town — Mr. Stephens was called to the Chair —

The Minutes of last Meeting, held on 16th. ult., were read, and found correct —

Mr. Johnston read to the Meeting letters which he had received from the Observers at Jerusalem and Damascus — The Meeting was gratified by the interest in the objects of the Society manifested by each of these Gentlemen, and Mr. Johnston kindly agreed to arrange for a more careful transmission of In:struments to the East — a Mercurial Maximum Ther:mometer, of those lately sent, having been broken on the way — one to be sent in its place —

Mr. Johnston read, also, a Letter from Major Hay, at present at Westport House, County Mayo, dated 18th. ulto., holding out the prospect of his being able to furnish information, to some extent, on the Rainfall in the District of Ireland where he now is —

He, further, read a communication from the Marquis of L

of Tweeddale, dated 9th ulto., suggesting that, in addition to the simple record, by the Society's Observers, of the direction of the wind, and in order to make their Returns more useful, some information should be given by them as to any Hills in the neighbourhood of their Stations that would cause local currents different in direction from the general currents in the atmosphere — It was agreed on, on the suggestion of Mr. Stephens, and toward carrying out His Lordship's ideas, that the Society's Observers be requested to furnish to Mr. Buchan a notice of the Physical Geography of their Stations, in cases where it may appear requisite —

Mr. Stephens, with reference to what passed, conversationally, at last Meeting, said that he had inquired of Messrs. Blackwood whether they might be disposed to undertake the sale of the Society's Quarterly Publications, and that they had expressed their willingness to do so — The subject was delayed till next Meeting —

Dr. Jackson requested permission to delay till next Meeting the Report of the Sub-Committee appointed at last Meeting to consider the means of promoting Medical Climatology — Leave was granted, and Mr. Cunningham was added to the Sub-Committee —

The subject for next Quarterly Report was then taken up, and it was agreed on that the subjects should be deferred, for consideration at next Meeting, to be held on an early day —

Mr. Buchan mentioned that the Observer at Pittenween had been affected by severe illness, and would, he feared, be unable to continue his valuable services — Mr. Buchan was directed to

express

express the Council's sympathy, and their best thanks for the services he had rendered to the Society, with a request that he would kindly give the Council the benefit of his advice in the appointing of a successor to him as Observer –

The Treasurer reported applications for admission to the Membership of the Society on behalf of –

Sir James Fergusson, of Kilkerran, Bart. M.P.	£1. – . –
John Galloway Esq., Ardrossan	– . 10. –
Edmund Baxter Esq., W.S.	– . 10. –
Robert S. Thomson Esq., Grange, Kilmarnock	– . 10. 6

Meeting of Council, in the Society's Chambers, on 12th. October 1863, at 12, Noon –

Present – Sir John Stuart Forbes Bart. (and afterwards Mr. Milne Home), in the Chair –
Mr. Milne Home –
Mr. Stephens –
Mr. Cunningham –
Dr. Jackson –
Mr. Cove –
Mr. Johnston –
Dr. Mitchell –
Mr. Elliot –
Mr. McLaggan –
The Meteorological Secretary, and the Treasurer –
Present, also, J

12th. October 1863 —

Present, also, Mr. Rathbone, Chairman of The Association of Underwriters of Liverpool — and Professor Rogers, of Glasgow —

Before proceeding to the ordinary Business, Mr. Rathbone, who had happened to call at the Society's Chambers just as the Meeting was assembling and been asked to remain for a few minutes (con:ference) was heard on his views as to how the operations of this Society might best be made practically available for behoof of the Mercantile interest in Liverpool and other Seaports — A con:versation took place, which resulted in Mr. Rath:bone's kindly undertaking to forward to the Secretary a description of the self-registering Barometer used in the Liverpool Observatory, together with Specimens of Diagrams shewing the Observations made with Self-registering Instruments, which give, for every instant, the weight of the air, the direction and force of the Wind, and the Rainfall — Mr. Rathbone also stated that curves, shewing all the important elements of the Weather for the previous three months, at Nairn, Penzance, Galway, Yarmouth, and Liverpool, are constantly exhibited in the Liverpool Exchange, and that thus some valu:able results, regarding the prediction of the coming Weather, had been arrived at —

The Minutes of last Meeting of Council, held on 8th. inst., were read, and found correct —

Mr. Milne Home read a Letter from Major Cowell, (who has accompanied His Royal Highness Prince Alfred to Scotland, and to whom the, Mr. Milne Home, had presented, at the Conversazione given, on 8th. inst.)

inst., to the Social Science Association by the Senatus of the University, intimating His Royal Highness' purpose of visiting the Society's Chambers and inspecting their Collection of Instruments &c., and that notice of the time fixed by His Royal Highness would be duly given. This communication was received with much pleasure by the Meeting, and directions were given for a due reception of His Royal Highness.

Dr. Jackson submitted the Report of the Sub-Committee on British and Foreign Medical Climatology as a Science. A conversation on the subject of that Report took place, when a general approval of the Report was expressed; and it was agreed that an amount of space not exceeding one third of the Society's Quarterly publications should be put at the disposal of the Sub-Committee about to be mentioned. After a full discussion of the whole subject, in connection with a proposed change on the form of the Society's Quarterly Publications, the following Sub-Committee, Mess. The Chairman, Mr. Johnston, Mr. Stephens, Dr. Jackson, and Mr. Buchan — Mr. Johnston Convener — was appointed, to consider the proposed change, with the probable expense attending it, and all other matters connected with the proposed addition to the Society's objects.

The subject for next Quarterly Report was then taken up, when Mr. Stephens read a Memorandum which he had prepared, in which he suggested that the subject of the next Quarterly Report should be a tabulated arrangement of the Observations on the Maximum and the Minimum Temperature during

during the growing months of the last seven years, as recorded in the Society's past Quarterly Reports. A conversation took place, Professor Rogers taking part in it, which resulted in its being agreed on that Mr. Buchan should prepare a tabulated Statement of the Extremes of Temperature during each week of the Eight growing months of the year, during the last seven years, deduced from the Society's past Monthly Returns.

Meteorological Society of Scotland.
Minute of Meeting held at 4 St. Andrew Square, 13th. October 1863.

Present. Mr. Milne Home, Mr. Stephens, Mr. Gibson, Mr. Buchan, and Mr. Keith Johnston, Convener. Mr. Simpson attended the Meeting, on the part of The Messrs. Blackwood.

It was remitted to the Committee to take into consideration the propriety of altering the form of the publication of the Society's transactions, with a view to give effect to the contemplated addition of "a Medical department." To secure the advantage of a first rate Publishing House for the Sale of its Journal, and to manage the Collection and payment of any such Advertise: :ments as may be offered for the Cover of each Quarterly Part.

The Committee took up the matters in the following order.

First. Size. On this subject it was found that the Tables furnished by the Registrar General of

13th October 1863.

General so fixed the size of page that no change could be contemplated except the addition of about half an inch to the breadth of the paper, in order to improve the shape of the Journal.

2. It was agreed that the type, in all the matter except the Tables, should be larger — Small Pica was suggested. The advantage of this would be to extend the bulk, and, at the same time, add to the usefulness of the Work.

3. That it would be desirable to fix the Price of Each Quarterly Part at 2/6, with a view to encourage Membership by offering an Equivalent for annual Subscription. Mr. Simpson was of opinion that, considering the expensive nature of the printing — tabular matter and Diagrams — this price would not be too great; and that no advantage could be expected from a low-priced Journal, the sale of which must necessarily be limited to those taking an interest in Meteorology. This opinion was supported by the Prices charged for other similar Journals produced to the Meeting, especially the Quarterly Publications of The British Meteorological Society, the Charge for which varies from 2/. to 3/6, in proportion to the amount of matter. It was considered that from 40 to 50 pages would be a fair average, if the price were fixed at 2/6, and in a similar proportion if a fluctuating price were agreed on.

4. Mr. Simpson calculated that the Advertisements which might reasonably be expected would, at least, pay the Expense of a handsome Cover for the Journal.

5. The

13th October 1863 -

5. The Committee, agreeing generally to the verbal statement of Mr. Simpson as to the mode of conducting the Publication, and the Charge for Commission, agreed to put into the hands of the Messrs. Blackwood the Report now printed for the Quarter ending 30th June 1863, as well as the Stock of Back Nos. in possession of the Secretary, with a view to their assuming the transfer of the publication to themselves -

6. It was considered desirable, for the purpose of producing Annual Volumes of the Journal, that the first Number of the new Publication, embracing Medical Meteorology, should be issued on the 1st of January 1864, and that Dr. J. Jackson should be requested to prepare an introductory Essay explaining the objects of the Department under his care - for that Number.

7. Subsequently, on the same day, the Messrs. Blackwood submitted a Statement of their terms for publishing the Journal, which is here appended -

8. At a Meeting of Council held on the 19th October, it was agreed that the terms offered by the Messrs. Blackwood should be accepted by the Society - Mr. Keith Johnston was authorized to intimate this to them, and to request that they would immediately publish the new Papers to be put into their hands by the Secretary -

It was suggested that the Quarterly Publication should be intituled "The Journal of the Meteorological Society of Scotland" -

9. It is understood, altho' not fully expressed in the Letter of the Messrs. Blackwood, that the Society

13th October 1863.

Society undertake the preparation and printing of the Journal, which is to be handed over to the Publisher in a condition ready for Sale.

Copy.

45 George Street,
Edinburgh, 13th October 1863.

Dear Sir,

In order to prevent misapprehension I hereby put down what I intended as the terms upon which I offered at the Meeting of the Com. of the Meteorological Society today that Mess^rs Blackwood should publish their Transactions.

The Publications are to be held by us on Sale or Return twice a year, in Feby & August. We shall render a Statement of our Sales and pay for the same at a reduction of 32½ per Cent from selling price & the 25th Book. The Advertisements we may receive for the Publications of the Society are at same time to be accounted for by us less a Commission of 10 p Cent from the Amount paid to us by the Advertisers.

You must hold your Printer liable for the production to you of a receipt for all deliveries to us.

I am, dear Sir, for W. Blackwood & Sons,
Yours faithfully,
A. Keith Johnston Esq. (signed) Geo. Simpson.

Copy.

Edinburgh, 4 St Andrew Square
19th October 1863.

Dear Sir,

At a Meeting of Council of the Meteorological Society

Society of Scotland held this morning I was authorized to accept of your terms for publication of the Society's Works as contained in your letter addressed to me of date 13th inst. I am further desired to intimate that the Secretary will in the course of a day or two place in your hands the new Paper and back Numbers of the Society's Transactions which you will please to advertize for sale as soon as possible.

I am, Dear Sirs,

Yours truly,

(signed) A. Keith Johnston

Hon. Sec. –

Messrs. Blackwood & Sons,

Publishers –

Meeting of Council, in the Society's Chambers, on 13th October 1863, at halfpast Eleven, A.M. –

Present – Mr. Milne Home – in the Chair –

Dr. Scoresby Jackson –
Mr. Cunningham –
Mr. Core –
Mr. Johnston –
Mr. Stephens –
The Meteorological Secretary –
The Treasurer –

The Minutes of last Meeting of Council, held on 12th inst., were, after adjustment, found correct –

The Chairman referred to the Notices for this –

this Meeting intimating that the chief object for which it was to be held was the considering of certain new premises as Chambers for the Society. Rooms in the "Law Chambers" in The Life Association's new premises in Prince's Street were spoken of but they were thought liable to objection and it was remitted to Mr. Johnston, Mr. Cunningham, and Mr. Buchan, to make inquiry of Mr. Matheson, of Her Majesty's Board of Works, as to whether accommodation might not be had in the new part of the Register House, or elsewhere in one or other of the Public Buildings in Edinburgh; and otherwise to consider the whole subject, and report to a future Meeting of Council.

The Chairman intimated that Sir John Stuart Forbes had agreed, at his request, to deliver an Address at the next General Meeting, in January. And that The Marquis of Tweeddale had written to him that if he should receive a day's notice he would willingly attend on the occasion of the expected visit of His Royal Highness Prince Alfred.

Dr. Jackson mentioned his having seen, in the Proceedings of The British Meteorological Society, a Notice to the effect that on payment to that Society of Two pounds ten shillings, a Set of Instruments might be had, and he suggested that it might be of advantage to this Society to adopt a similar practice. The consideration of the subject was deferred.

See five last pages.

Mr. Johnston laid before the Meeting a Minute of a Meeting, held on 13th inst., of the Sub-Committee appointed at last Meeting of Council, to consider of arrangements for the proposed change in the form &c. of the Society's Publications, at which Mr. Simpson, Messrs. Blackwood's Manager, was present as requested.

requested - also a Letter, dated 13th inst., from that Gentleman on behalf of Messrs Blackwood, putting in writing what he had verbally mentioned to the Meeting as the terms on which Messrs Blackwood would publish the Society's Transactions - The Minute and Letter were agreed to, and Mr Johnston was authorized to accept of Messrs Blackwood's terms as contained in the Letter referred to, for publication of the Society's Works - And he was requested for the to intimate to them that the Secretary would, in the course of a day or two, place in their hands the new Papers and Back Numbers of the Society's Transactions, with a request that they would advertize these as for sale, as soon as possible -

New Members - Philip M. Rathbone Esqr., of Greenbank Cottage, Liverpool, was, on the motion of the Chairman, unanimously elected a Member of the Society - as were, also, George F. Barbour Esqr. of Bonskeid, and Professor Martin, of Aberdeen -

Meeting of Council, in the Society's Chambers, on 30th October 1863, at 2 P.M. –

Present. The Marquis of Tweeddale – in the Chair –
Mr. Milne Home –
Mr. Stephens –
Mr. Cunningham –
Mr. Johnston –
Dr. Scoresby Jackson –
The Meteorological Secretary –
The Treasurer –
Captn. Speke, the well known African Discoverer, was also present during part of the proceedings –

The Minutes of last Meeting, held on 18th inst., were read, and found correct –

Mr. Milne Home mentioned that, as intimated in the billets, the chief object for consideration by this Meeting was the endeavour to obtain better Chambers for the Society, and that there seemed to be grounds for hope that accommodation might be granted in the new part of the Register House. He read to the Meeting a Memorial which he had prepared with a view to it's being addressed to Sir William Gibson Craig, as Lord Clerk Register, who, he was informed, was the proper Party to whom application fell to be made for the use of any part of the Register House – The Memorial was unanimously adopted, and the Marquis of Tweeddale kindly agreed to subscribe it on behalf of the Society – The following Gentlemen were requested, and agreed, to act as a Deputation for waiting on Sir William Gibson[?]

Gibson Craig with the Memorial, should that mode of presenting it be adopted, Viz. Mr. Milne Home, Mr. Bouverie Primrose, Mr. Cunningham, and Mr. Johnston –

The Treasurer reported that the following Gentlemen had, since last Meeting of Council, expressed a wish to be admitted as Members of the Society, Viz. –

New Members – David A. Frazer Esqr., Johnston Lodge, Laurencekirk — L. 10. –
and Thomas Herbert Barker Esqr., M.D., Bedford — .10. –

On the motion of Mr. Milne Home, each was admitted a Member, in terms of the Rules –

The subject of the publication of the Prize offered by The Marquis of Tweeddale for Scientific Explanations of the Weather Prognostics collected by Dr. Mitchell was then taken up, and Mr. Milne Home submitted a Dft. Advertisement which he had prepared, announcing the Prize as offered – It was approved, and directions were given for its due insertion in the Newspapers –

Mr. Buchan reported that he had made inquiry as to the prices at which parties applying to the Society for Instruments would be furnished with them by Opticians in Edinburgh, and exhibited a list of such prices – He was authorized to give any assistance in his power to parties who might apply for Instruments, taking care to guard against the Society's incurring any risk in connection with such transactions.

Dr. Jackson mentioned that he was already in correspondence with Medical Gentlemen on

the

the subject of his Department, and he laid on the table a Copy of the Medical Times and Gazette, of 24th. inst., containing a favorable notice of this Society's new Department.—

Mr. Milne Home mentioned that he had had a Call from Major Cowell, who intimated to him that His Royal Highness Prince Alfred purposed calling calling at the Society's Chambers at four o'clock this day, and Mr. Home suggested the desirableness of the Marquis of Tweeddale's being present on the occasion—he himself having agreed to undertake the explanation of the Diagrams, Instruments, &c., to His Royal Highness—The Marquis of Tweeddale agreed to be present, as did the Members of Council present at this meeting.—The Meeting, accordingly, was adjourned till four o'clock.—

The Meeting having resumed its sitting at four o'clock, His Royal Highness Prince Alfred, and His Grand Ducal Highness Prince William of Hesse, accompanied by Major Cowell, with the proverbial punctuality of the Royal Family, arrived precisely at that hour, when they were received by The Marquis of Tweeddale, as President of the Society, and by Mr. Milne Home, as Chairman of the Council, and the other Members of the Council who were present—Their Royal and Grand Ducal Highnesses re:mained during fully half an hour, in the course of which time Mr. Milne Home gave an elaborate explanation of the objects pursued by the Society, and of the Instruments, Diagrams, Schedules, &c., in use for the Society as the time admitted of—Dr. Jackson, also, exhibited and

and explained Diagrams illustrative of the influence of Climate, and of Weather, on the Health of the Community. In all these subjects their Illustrious Auditors manifested a due interest; and they expressed themselves as being much gratified by their visit to the Society, and by what they had seen and heard.

Meeting of Council, in the Society's Chambers, on 11th. December 1863, at 2 P.M.

Present. Mr. Milne Home in the Chair.
Mr. Stephens.
Mr. Cunningham.
Mr. McLaggan.
Dr. Jackson.
Mr. Coe.
The Meteorological Secretary.
The Treasurer.

The Minutes of last Meeting, held on 30th. ult., were read, and found correct.

The Chairman reported the unfavorable result of an interview which the Deputation named at last Meeting had had with the Lord Clerk Register, as to accommodation for the Society in the New Register House, or other of the Public Buildings in Edinburgh. And, subsequently,

subsequently, read a Memorial which he, after con:sultation with the Marquis of Tweeddale, who had agreed to subscribe on the part of the Council, had prepared for presentation to The Lords of Her Majesty's Treasury. The Memorial was approved, and directed to be trans:mitted to their Lordships of the Treasury.

The Meeting then took up the consideration of the materials for the forthcoming (First) No. of the Society's Journal. Mr. Buchan reported that he had consulted with Messrs. Johnston as to the probable expense of Engraving, for the Journal, a Map which he had had constructed, exhibiting the Isothermals of the British Isles for January and July, on a mean of five years ending 1861; and, though the Meeting felt regret that the Cost should be so con:siderable, yet, looking to the probable future usefulness of an Engraved (Skeleton) Map such as the one con:templated, it was agreed that the proposed arrangement with Messrs. Johnston should be carried through. The contemplated Cost, £15.-, might, it was held, be stated to Capital, and written off to Income, say in each of the three next years.

The Treasurer reported that, since last Meeting, the following Gentlemen had offered themselves for Election as Members of the Society, viz:—

As Life Members—

New Members. Robert Macfie Esq. of Airds £5.-.-

John Macfie Esq., 14 Hope Terrace, Whitehouse 5.-.-

And as Annual Members—

Sir Edward Colebrooke, of Crawford, Bart., M.P. £1.-.-

John Henry Esq., S.S.C., Edinburgh -.10.6

Stevenson Macadam Esq., Ph.D., Edinburgh 1.1.-

R. A. Macfie Esq. of Messrs. Macfie & Sons, Liverpool 1.1.-

Dr. E. J. Meade, Whitby, Yorkshire -.10.-

Rear Admiral Ramsay, Ainslie place 1.-.-

LITERATURE.

From Aberdeen Journal of 2 Dec. 1863

On the Popular Weather Prognostics of Scotland. By ARTHUR MITCHELL, M.D. Edinburgh and London: Blackwood & Sons.

IN all parts of this country, except, perhaps, in large towns, there are certain popular rhymes, proverbs, or saws, regarding the weather, which seem to have been handed down from a hoary antiquity, and in which the lower orders especially place great confidence; and in every district you may always find several persons who have, or profess to have, remarkable skill in foretelling the weather. These weather prophets are often shrewd men, who, from the nature of their occupations, have to spend much of their time out-of-doors, and have therefore paid much attention to the weather. They usually know a great number of these "ancient saws," and have been in the habit of frequently comparing them with the actual weather following any of their prognostications. The opinions of these men are by no means to be despised. Indeed, it is only by collecting the opinions of such men, and the popular prognostics they have in their own way verified, that we can ever expect to arrive at a scientific explanation of the facts on which such prognostications are made.

Many of those popular weather prognostics are doubtless of little worth; but it is probable that a still greater number of them are valuable, and capable of explanation on scientific principles, and, therefore, it is worth while for the meteorologist to know them, and, after testing them, to employ them in making his local "forecasts" of the weather as supplementary to the indications of his instruments. And, perhaps, this is especially the case with those prognostics that have only a local application; for there can be no doubt that these arise chiefly from the Physical Geography of the district in which they are popular; and Physical Geography, as is well known, has great influence on meteorology.

Before any scientific explanation of popular weather prognostics could be attempted, it was necessary that some collection of them should be made. The Pamphlet under review is such a collection. It has been compiled by Dr Mitchell (who, if we are not misinformed, was an Aberdeen student), at the suggestion of the Marquis of Tweeddale, who, with his wonted liberality, has offered, through the Meteorological Society of Scotland, a prize of the value of 20 guineas "to the writer of the best scientific examination of our popular weather signs."

Dr Mitchell has been at great pains in making this collection, and deserves the thanks not only of the Meteorologist, but also of every one who is desirous to preserve those popular sayings and beliefs regarding the signs of the weather, which doubtless influence the conduct of thousands. Many more of these prognostics must be current throughout the country than Dr Mitchell has here gathered together, for it was undoubtedly impossible for one man to make a complete collection of them; and it would be well if clergymen, teachers, and others living in the country, were to pick up all the authentic rhymes and sayings on

the weather that they find floating about in their several districts, and preserve them. We should suppose that the Secretary of the Scottish Meteorological Society would be glad to receive any such collections, and we are certain he would turn them to good account. In this way a great number of merely local weather prognostics would be collected which have their origin in the physical characteristics of the districts in which they are popular. These local prognostics, it is true, are valuable only in the district to which they apply, and they can receive their explanation only from one who is intimately acquainted with its physical features. But such an explanation would necessarily involve principles of universal application under similar conditions.

This Pamphlet contains a great number of curious popular sayings. Some of them are quite new to us, but a great many of them we have frequently met with in one form or another. But they are generally very interesting, and we should be very glad to see them brought to the test of a scientific examination. We would recommend the pamphlet to all who take an interest in Meteorological matters, and especially to the few who have a scientific knowledge of Meteorology. The prize offered is worth contending for, and surely the Aberdeen district contains men who are capable of competing with a fair prospect of success. At the same time, we do not think that any man, save one who has travelled a good deal in Scotland, and knows the country well, need hope to explain all those prognostics which have a purely local reference. But if each meteorologist throughout the country would gather together all the local prognostics in his own neighbourhood, and examine them, with special reference to the Physical Geography of his own district, we might thus arrive at a pretty full collection and tolerably accurate scientific explanation of the popular weather prognostics of Scotland. Could not the respected correspondents, who every year publish in our columns so valuable Meteorological statistics for this district, undertake to collect and explain those prognostics which are current in the three north-eastern counties? We are sure they might do much in this way; and, if all Scotland were treated in the same manner, we have little doubt that much valuable information would be collected, and much good would be done to science. Meteorology depends entirely for its value on extensive and accurate observations of all sorts; and if a sufficient number of competent observers—who would observe not only the instruments at the stated times, but also the signs in the sky and on the hills, and note carefully the weather following during the next few days—were posted over the country, we might at length arrive at a correct understanding of the Meteorology of Scotland, and at some certainty in our prognostications of its proverbially variable weather.

The Council of the Scottish Meteorological Society has done well to publish this collection, and Dr Mitchell deserves credit not only for the care manifested in making it, but for the scientific knowledge he has displayed in the preliminary letter to the Marquis of Tweeddale, and in the occasional hints which he throws in, indicating where the explanation of some of the prognostics is to be sought.

On the motion of the Chairman each of these Gentlemen was elected a Member, in terms of the Rules.

Mr. Buchan mentioned that the Copies which had remained on hand of the Society's Quarterly Reports, &c., had been handed over to Messrs. Blackwood, as directed at last Meeting — also that the whole arrangements with Messrs. Blackwood, as formerly agreed on, had been carried through.

It was agreed on that a List of the Members of the Society should be printed in the 1st. No. of the Society's Journal.

It was resolved that the lowest Annual Subscription accepted from new Members should in future be Ten shillings.

Mr. Milne Home proposed that the Society's Rules should be extended so as to embrace an Honorary Membership, to be conferred on distinguished Foreigners and other persons who might encourage Meteorological Science — And it was agreed on that the subject should be submitted to the approaching Half-yearly General Meeting of the Society.

It was arranged that the following Members of Council should be those who should go out, in rotation, at next General Meeting, viz. Professor Wilson, The Lord Provost, and Major Hay; and that the following Members of the Society should be proposed for election at the General Meeting, viz. Professor Christison, Admiral Ramsay, and Sir John McNeill, G.C.B.

Mr. Milne Home presented to the Society six Maps and Tables which he had prepared for the illustration of a Lecture which he had lately delivered — The cordial thanks of the Council were voted to him.

The

14th December 1863.

The Chairman mentioned his having received a Letter from Sir John Stuart Forbes, intimating that the subject of his proposed Address, at the approaching General Meeting, would be the progress of Meteorology since the formation of this Society.

Meeting of Council, in the Society's Chambers, on 5th January 1864, at 2 P.M.

Present - Mr. Milne Home - in the Chair -
Mr. Elliot -
Mr. Stephens -
Mr. Cunningham -
Mr. Keith Johnston -
Dr. Scoresby Jackson -
The Meteorological Secretary -
The Treasurer -

The Minutes of last Meeting, held on 14th ult°, were read, and found correct -

The Chairman stated that, as intimated in the billets, the chief business to be taken up at this Meeting was the making of arrangements for the Half-yearly General Meeting falling to be held in the course of the present month, and that, in the view of that Meeting, he had prepared a Report from the Council, the Draft of which he laid on the table - He read it to the Meeting, and it was unanimously approved, and adopted - It was resolved that

that the Halfyearly General Meeting should be held on Thursday, the 21st January, at One P.M., in No. 5 St. Andrew Square, and the requisite arrangements were made.

Dr. Jackson read to the Meeting a Letter which he had received from Mr. Rathbone, Liverpool, dated 30th ulto., and also one which he had received from Mr. Smith, Jersey, dated 8th ulto.

The Treasurer reported that, as directed at last Meeting, the Memorial to the Lords of the Treasury had, after having been subscribed by The Marquis of Tweeddale, been duly transmitted to the Secretary of The Treasury.

New Members. He further reported that, since last Meeting, the following Parties had expressed a wish to be admitted to the Membership of the Society, and, on the motion of the Chairman, each was elected accordingly, in terms of the Society's Rules.

Sir James Gardner Baird of Saughtonhall, Bart.	£1. -. -
Alexander Cruickshank Esq. A.M., Aberdeen	-. 5. -
Alexander C. Stuart Esq. of Eaglescairnie	1. -. -
Dr. Sanderson, 17 Claremont Crescent	1. 1. -
Lawrence McEwen Esq., Ormsby Iron Works, Middlesborough	-. 5. -
The Venerable Archdeacon Bevich of Lesson:dum	2. -. -

as Annual Members.

Meeting of Council, in the
Society's Chamber, on 26th January
1864, at half past twelve P.M. —

Present — Mr. Milne Home — in the Chair —
The Most Noble the Marquis of Tweeddale —
Major Hay —
Mr. Cunningham —
Mr. Johnston —
Dr. Mitchell —
Mr. Elliot —
Mr. Stephens —
The Meteorological Secretary —
The Treasurer —

The Minutes of last Meeting of Council, held on 5th inst., were read, and found correct —

The Chairman stated that he had called this Meeting of Council lest any matter might require the Council's attention prior to the Meeting of the Society about to be held, and he mentioned the arrangements which had been made for that General Meeting; inter alia, that in consequence of the continued detention, in London, of The Lord Provost, an old Member, and steady friend, of the Society, the approval of the Council's Report, and of the relative Resolutions, would be moved by Professor Campbell Swinton, and seconded by Sir James Gardiner Baird, Bart. —

The Treasurer reported that since last Meeting of Council Sir James Coxe had expressed a wish to become a Life, instead of an Annual, Member of the Society, and his wish was unanimously complied with — also that the following parties had, since last Meeting, intimated their wish to be admitted as Annual Members of the Society, viz: —

21st January 1864 –

viz.– The Right Honble Viscount Walden £2.–.–
and Le Marquis de Chateauvieux, Switzer:
:land 3.–.–

Each was, on the motion of the Chairman, elected an Annual Member, in terms of the Rules –

It was resolved ~~that the~~ next subject to be taken up by Mr Buchan should be a Continua:tion of ~~of~~ his Reports in the Farmer's Journal, & was to include the whole of the Vegetative period of the year.

From Daily Review of 22 Jan. 1864

SCOTTISH METEOROLOGICAL SOCIETY.

The half-yearly general meeting of this society was held in the Religious Institution Rooms, 5 St Andrew Square, yesterday—the Marquis of Tweeddale in the chair. Among the other gentlemen present were:—The Marquis de Chateau Vieux (from Switzerland); Lord Henry Ker; Sir John M'Neill; Sir John Stuart Forbes; Sir James Coxe; Sir James Gardiner Baird; Admiral Ramsay; Professor Balfour; Professor Wilson; Major Hay; Mr D. Milne Home, of Wedderburn; Captain Thomas, R.N.; Captain Otter, R.N.; Dr Seller; Dr Key; Dr Stevenson Macadam; Dr Arthur Mitchell; Dr Baikie; Rev. Dr Bowie (Kinghorn); Mr Scott Moncrieff, of Fossoway; Mr Campbell Swinton; Mr Elliot, of Wolflee; Mr J. Scott Moncrieff; Mr George Seton, advocate; Mr A. Keith Johnston; Mr Kenneth Mackenzie; Mr Archibald Gibson; Mr Buchan, &c., &c.

The Marquis of TWEEDDALE, in opening the proceedings, congratulated the society on the increasing popularity of the Meteorological Society of Scotland, the importance of which had become more apparent after the business of the society had been communicated to the public by means of a considerable increase in their members. The society included men in the highest walks of science as well as in other high positions in the country. He was glad that the subject of meteorology was daily becoming more popular, and that the observers placed in different parts of the country were obtaining facts which were afterwards demonstrated by men of science and made intelligible to those who formerly thought there was a mystery in meteorology. It was from such circumstances that they saw meteorology becoming a popular, useful, and very attractive research for the community at large. In addition to the ordinary routine of business with which this society has been engaged, a new department—the medical department—has been established, the object of which was to gain information as to what effect climate has upon health and disease. He was glad to say that the Council had been enabled to place their transactions in a more acceptable form. They were to be published now in a quarterly journal, and they hoped in that way to make their labours more intelligible and more acceptable to their members. An explanation of the details of these matters would be given in the report, which he now took the liberty of calling upon his friend, the Chairman of Council, to read.

Mr MILNE HOME then read the report, which stated that the total number of stations in Scotland which at present sent up monthly schedules to the society's office is seventy-two. Two stations have been formed in Syria—one at Jerusalem and the other at Damascus,—and the society, in addition to the thermometers, hygrometers, rain-guage, and the requisite schedules supplied by themselves for these stations received from Government, through Admiral Fitzroy, two barometers for each place. The report next referred to steps that had been taken by the Council to obtain information regarding the climate of certain places, both at home and abroad, to which invalids were in the habit of resorting. Dr Scoresby-Jackson, who had brought the matter under the attention of the Council, had undertaken the correspondence with foreign stations and to reduce the observations received from them. Two prizes, one of £10 and the other of £20, had been offered by the Marquis of Tweeddale for a series of trustworthy observations on the temperature of drained and undrained soil on mountain pasture and on arable land. Two reports of observations carried on for a year had been received by the Council in competition for the prizes, but no decision has yet been given. Another prize of £21, or a piece of plate of that value, has been offered for the best essay explaining on scientific principles the popular signs or prognostics of the weather, collected by Dr Mitchell, a member of the Council, and published a few months ago. For this prize a keen competition is looked for. The Council suggest in the report the following change in the constitution and laws of the society:—"1st, It is recommended to raise the minimum subscription, which entitles a person to become a member of the society, from 5s to 10s; 2d, It is recommended to have, besides ordinary members, two other classes of members,—namely, honorary members and corresponding members—the honorary class to consist of persons distinguished by the services they are rendering to meteorology by their discoveries or writings, or in other ways; and the corresponding class to consist of persons who regularly make and transmit observations to the society's office, or who furnish other useful information to the Council. 3d, It is recommended to give to the Council the privilege of admitting those members, and of assigning the class to which they shall belong, it being necessary, however, at the first general meeting of the society thereafter to mention the names of all new members so admitted in the half-yearly reports by the Council." The report also referred to the publication of the Transactions of the society in the form of a quarterly journal, and concluded by suggesting that Sir John M'Neill, Professor Christison, and Rear-Admiral Ramsay should be elected members of the Council, in room of those retiring by rotation.

On the motion of Mr CAMPBELL SWINTON, seconded by Sir JAMES GARDINER BAIRD, the report was adopted, and resolutions passed, giving effect to the recommendations the report contained.

THE PROGRESS OF METEOROLOGICAL SCIENCE.

Sir JOHN FORBES then gave an address on "The Progress of Meteorological Science since the Formation of the Society." He began by noticing recent investigations into the phenomena of the temperature of the air, especially the discoveries by De la Rue's photoheliometer, in the composition of the sun by means of the autographs obtained by it, and the ten aerial voyages of Glaisher and Coxwell, which had proved that the temperature in ascending did not follow a uniform rate of reduction. He also noticed the extraordinary fact that, although the region of moisture did not extend more than two or three miles above the earth, the cirrus clouds at five miles appeared to float as high as ever above them. He then went on to say—Mr Glaisher's description of the contrast in his evening ascent of the bright light of day around them, while the world beneath, as they sped through the airy regions, had set in twilight, is exceedingly picturesque, and the whole narrative, given with naive simplicity, is intensely interesting. A thrilling excitement is felt in the increasing rapidity of the progress, by a power of their own creation, of the two lone travellers through the realms of space never before traversed by man, where the helpless pinions of the bird, though formed for aerial voyages, sink like a stone through the attenuated medium. The bold entry and persevering progress through a region which every moment's advance made less and less fit to sustain human life, and where the slightest accident would inevitably consign them to a nameless and unimaginable fate; the realisation of the dreadful risk, when one of the companions, with his friend senseless beside him, and his own limbs paralysed, had to tug with his teeth at the valve of safety with the slender hope that he might be able to detach it before his own senses gave way, presents a picture of physical and moral courage in devotion to science which the annals of philosophy cannot parallel. The ingenious weather charts of Mr Galton, in his Meteorographica, were explained, as well as the "bulletin" and map with signs explaining the phenomena communicated daily to Paris by telegram from about sixty stations. He went on

to characterise the results of digests of meteorological observations by Glaisher, Symons, and Eaton in various parts of the country, embracing barometric pressure, wind, and rainfall; and then proceeded to touch upon the practical objects which might be subserved by an increased acquaintance with the relations these phenomena had to the statistics of life and health, and the industrial interests of commerce and agriculture. Under the first branch the interesting tables of the London Medical Meteorology were discussed, showing the effects of low temperature in increasing general mortality, and on particular diseases. He also referred to Dr Moffat of Hawarden's speculations on the connection of ozone, the aurora, and the luminosity of phosphorus, with diseases of neuralgia, epilepsy, and epistaxis in a stormy state of the atmosphere, which he developed by tracing the number of such cases on days of telegraphic weather warnings; and the results of Scottish meteorology under the same conditions were illustrated from Dr Scoresby-Jackson's very minute and accurate analysis. On the commercial question, the origin and establishment of the weather prognostications, now telegraphed by about sixty stations, and by messages to double that number, were explained. He referred to the satisfaction expressed from almost all the districts as to the general accuracy of the sixty-two warnings which had been sent, and the interest expressed by the Liverpool Society of Underwriters (whose chairman, Mr Rathbone, had visited the rooms) in the progress of the observations. The instruments now lent to about 1100 merchant ships had resulted in most trustworthy returns being sent from their logs, to the best of which handsome premiums had been given by the Board of Trade. On the subject of agriculture, great regret was expressed that, while its interests as providing for the food of the people and its liability to damage from bad weather, were admitted at all hands, and Government did so much to provide at the public expense a staff for making information available, not the slightest notice had been taken of this great interest. So careless had they been, that although above two millions sterling had been lent to be invested in drainage, no provision was made for even getting returns of the actual benefits derived by the borrowers; and though the agriculturists themselves came forward to procure information which the Government gave a small sum to collect and publish, even that, on a slight misunderstanding with the Highland Society, had been discontinued, and no effort had been made to re-establish it in any other form. It was earnestly to be hoped that the great benefits of such statistics, not only as a branch of trade, but as embracing the results of the effect of different kinds of seasons, and the test of the advantage of peculiar systems of management would soon be restored to Scotland. There was no doubt that the same staff of enumerators could easily be reorganised upon fair terms of remuneration, and the simple way to effect its proper working was to put it under the management of the Registrar-General, to whose department it seemed properly to belong. Such a scheme, if influentially pressed upon the Government from all parts of Scotland, would, he had no doubt, be carried out. He then noticed several recent meteorological publications and newly invented instruments, and enlarged upon the benefits of ingrafting habits of observation on pupils in our public schools, as was done by Mr Core, one of the active members of the society, in the Normal Seminary; at the Dollar Institution, and Elgin and Aberdeen Grammar Schools. In conclusion, he paid a tribute to the perseverance and zeal of the society's observers, now about eighty in number, who, without fee or reward, went on steadily with their regular returns. He urged that, as soon as the funds would allow, regular visits of encouragement and examination should be paid to all the stations in turn by the secretary, and hoped that in time the political and social importance of their labours, in most cases carried on in the midst of other pressing avocations, would meet suitable reward at the hands of this country.

The Marquis de Chateau Vieux made some observations in French, after which

Mr Milne Home expressed the pleasure with which he had listened to the Marquis's observations. He stated that the Marquis who had recently come to Edinburgh had been admitted an ordinary member of the society, and he felt sure every one present would agree with him, from what the Marquis had said, that no one could be a more worthy member of it. He had shown immense knowledge in connection with various subjects of meteorology, there being hardly a question to which he had not made some allusion. After making some observations on the Marquis's remarks, Mr Milne Home said he could not sit down without expressing the pleasure with which he and every member present had heard the admirable paper by Sir John Stuart Forbes. The society were more indebted to the hon. Baronet than, with one exception (referring to the noble President), they were to any other party. It was he who wrote the paper on the "Climate of Britain," published in the Highland Society's Transactions about eight or nine years ago, and which led to the origin of the Meteorological Society of Scotland. (Applause.) He was sure that all would agree with him that the address they had heard that day placed them under deep obligation to Sir John Forbes, for the valuable instruction and suggestions which he had brought before the society. (Applause.)

Mr Seton, with reference to the matter of agricultural statistics which Sir John Stuart Forbes had referred to, stated that the hon. Baronet seemed to consider, in common with many others, that it might be carried on through the instrumentality of the Registrar-General's department, with which he was connected. The noble Chairman was no doubt aware that the Registrar-General for Ireland had for a series of years superintended these agricultural statistics, and that only now, on the first of the present month, had a complete system of registration of births, deaths, and marriages been brought into operation in Ireland, which he had also undertaken. It therefore humbly appeared to him that, if the Registrar-General for Ireland could gather agricultural statistics, and could carry on the system of registering births, deaths, and marriages, in the same manner the department with which he was connected might have added to its present duties—though they were by no means of a trifling character—that of the gathering in of agricultural statistics. (Applause.) Of course he made these remarks, however, merely as an individual member of this society.

Mr Keith Johnston moved that it should be remitted to the Council to dispose of Sir John Stuart Forbes's address in any way they thought proper by printing it or otherwise.

The noble Chairman then conveyed the thanks of the meeting to Sir John Stuart Forbes for the admirable address with which he had favoured the society.

Sir John Stuart Forbes, in reply, said he should be happy to put his address at the disposal of the Council. As to the remarks which Mr Seton had made in reference to the collection of agricultural statistics, he was gratified at the intelligence that, so far as he could judge, there was no practical obstacle to prevent that being embraced in the work of the Registrar-General's office, providing the Government were pleased so to arrange it. He had spoken to officers connected with that department on the subject. Of course it was a subject they could not well speak upon freely, and he was a little afraid there might not have been so cordial a disposition to concur in his suggestions, as, from Mr Seton's address, he was glad to find they would be likely to meet with. He was sure nobody connected with the subject of agricultural statistics would wish that a single iota of more labour should be put upon the department without the fullest and most adequate remuneration and increase of staff to accomplish the work. He felt confident that those who carried out this work when in the hands of the Highland and Agricultural Society were anxious that it should, in one shape or another, be still carried out. The agriculturists of Scotland, contrary to their brethren in England, saw fully the value of these statistics. They had not given in to the idea that the obtaining of them might prejudice their interests, but felt that the most minute information that could be received would be useful for the various interests of the country. He hoped that the hint which Mr Seton had thrown out would not be lost sight of, but that they should see that department carrying on, as efficiently and fully, the obtaining of the returns which they formerly received.

Mr Milne Home then gave an explanation of a map of the British Isles, showing the isothermals for January and July, on a mean of five years ending 1861, which had been prepared by Mr Buchan, the meteorological secretary of the society. He also referred to other diagrams which were exhibited on the walls of the room.

The proceedings then terminated.

Meeting of Council, in the Society's Chambers, on 10th March 1864, at 2 P.M.

Present - Mr Milne Home - in the Chair -
Admiral Ramsay -
Mr Stevenson -
Mr Cunningham -
Mr Core -
Mr Johnston -
Dr Jackson -
Capt. Thomas -
Mr McLaggan -
Professor Christison -
The Secretary -
The Treasurer -

The Minutes of last Meeting, held on 20th January last, were read, and found correct -

The Chairman mentioned that his object in calling this Meeting was that the Council might consider and adjust what is to appear in the next No. of the Journal &c. and he detailed the preparations which Mr Buchan had been making for it, and exhibited the materials proposed to be used. These were approved, and directions were given accordingly -

The Chairman read a Letter which Principal Forbes, of St Andrews, had addressed to the Honorary Secretary of this Society, in the following terms -
"115 George Street, Edinburgh - 16 Feby 1864 - Dear Sir
"You will recollect that I was one of the earliest
"Subscribers to the Meteorological Society - I ceased
"to become so from causes which I need not now specify -
"But when I see the perseverance with which its
"objects have been pursued & the interest of many
"of

"of the results I am anxious to join the Society - I
"think the Subscription is £5 - for life & I inclose a
"cheque for that sum - Please say if it is correct &
"believe me Yours very truly, (Signed) James D. Forbes -
"A. Keith Johnston Esq. -" And the Meeting expressed
great gratification from the receipt of the Letter -

The Treasurer reported that since last Meeting of Council the following Gentlemen had intimated a wish for Election to the Membership of the Society, viz. -

As Life Members -

R. A. Macfie Esq., Ashfield Hall, Neston, Cheshire, (elected an Annual Member on 16th December last)	£5. 5. -
William Ferguson Esq. of Kinmundy, 2 St. Aidan's Terrace, Birkenhead	5. 5. -
Principal Forbes, St. Andrews University	5. -. -
And as Annual Members -	
Mr. James P. Falkner, S.S.C.	£ -. 10. -
Revd. Mr. Bowie, D.D., Kinghorn	-. 10. -
Richard Kidston Junr. Esq., Glasgow	-. 10. -
P. H. J. Smith Esq., Allerbeck, Ecclefechan	-. 10. -
James Baird Esq. of Auchmedden, proposed by Elias Cathcart Esq. of Auchendrane -	1. -. -

Each of these Gentlemen was, on the motion of the Chairman, elected a Member, in terms of the Rules.

Dr. Jackson made a Report from the Medico-Clima:tological Sub-Committee, and on what that Sub-Committee propose for insertion in the next No. of the Journal, relating to their Department - This proposal was approved - Dr. Jackson suggested the expediency of publishing, in the Journal, a periscope of information on matters of a scientific nature, especially connected, more or less, with Meteorology and Medico-Climatology. The suggestion was ap:proved, and the carrying of it out was committed

to

to the Sub-Committee of which Dr. Jackson is Chairman -

The Chairman quoted, from the Council's Report to the Half Yearly General Meeting in January last, the New Regulations relative to the Admission of Honorary and Corresponding Members of the Society, and particularly referred to the privilege conferred on the Council, by that General Meeting, of admitting such Members. It was agreed, unanimously, that that privilege should be exercised with all due caution and consideration. As regards Corre:sponding Members, the following Names were suggested for consideration at next Meeting of Council, Vizt. -

Monsieur Le Docteur Emile Bertherand, Algiers -
F. Maxwell Lyte Esq., Bagnères de Bigorre -
A. W. J. Smith Esq., Jersey -
Le Chevalier Docteur Macario, Nice -
W. Bagnell Esq., M.D., Pau -
D. A. Freeman Esq., Mentoné -
Dr. Thomas Chaplin, Jerusalem -
E. T. Rogers, H. B. M. Consul, Damascus -

And the following Names were suggested for con:sideration at the same Meeting, for Honorary Membership, Vizt. -

His Royal Highness Prince Alfred Ernest Albert -
Sir John Frederick William Herschel, Bart., F. R. S. -
Vice Admiral Robert Fitzroy, Director of the Meteoro:logical Department of the Board of Trade -
Major General Edward Sabine, President of the Royal Society of London -
Commander Matthew Fontaine Maury, of the Navy of the Confederate States of America -
Professor Heinrich William Dové, of Berlin -

Professor

11th. March 1874 –

Professor Lambert Adolphe Jacques Quetelet, of Brussels, Perpetual Secretary of the Academy of Sciences of Belgium –

Dr. C. H. D. Buys Ballot, Director of the Royal Netherlands Meteorological Institute at Utrecht –

The Chairman reported that, when in London lately, he had communicated with the Authorities as to accommodation for the Society's business in one or other of the Government Buildings, and that he had strong hopes of success; and the hearty thanks of the Council were offered to the Chairman for his good offices in this and in every other matter con:nected with the progress of the Society –

It was resolved that the present Chambers be retained, at the present Rent, and on the present conditions, for the Year from Whitsunday next –

Mr. Stevenson exhibited a Box which he had had prepared, with louvre boards, for containing the Instruments in use by the Society's Observers; and which could be furnished at a much more moderate cost (probably not more than ten shillings) than those generally in use; and he suggested the inser:tion, in the outcoming No. of the Society's Journal, of a Notice that such Boxes might be had, at the Cost mentioned, or thereabouts –

It was agreed that a Rain Gauge should be sent to Skeabost, Portree, Skye, so as to afford means of comparison with the Instruments at Portree and Mossbank, in that Island.

A Letter from Mr. R. M. Smith, Leith, was sub:mitted, and it was agreed that Three Copies of the Society's Journal should, as requested, be forwarded to Mr. Smith, for Observers in Iceland mentioned.

mentioned in his Letter -

A Letter from Professor Piazzi Smyth was read, returning thanks from Mr. Leverrier, of Paris, and from himself, for Extracts from the Society's Schedules - These Extracts had been pub: lished by Mr. Leverrier, in the Bulletin Inter: national of 25th February 1864.

A Form of Intimation of Election was agreed on, and directed to be had lithographed by Messrs. Johnston - to be signed by Mr. Johnston as Honorary Secretary of the Society -

Meeting of Council, in the Society's Chambers, on 23d March 1864, at two P.M.

Present - Mr. Milne Home - in the Chair -
Mr. Stephens -
Mr. Hope -
Mr. Cove -
Mr. Cunningham -
Dr. Mitchell -
Mr. Stevenson -
Mr. Johnston -
The Secretary -
The Treasurer -

The Chairman stated that, as mentioned in the billets, he had called this Meeting for the purpose of the Council's arranging what Names should

should be selected for election as Honorary, and as Corresponding, Members of the Society.

The Minutes of last Meeting, holden 11th inst., were read, and found correct.

The Chairman mentioned, in detail, the considerations which had induced him to suggest for election as Honorary Member of the Society the Names which he had mentioned at last Meeting of Council; and the Meeting, cordially concurring with the Chairman in his Estimate of the merits of the parties he had proposed, unanimously elected each to be an Honorary Member of the Society. Their Names are as follows.

His Royal Highness Prince Alfred Ernest Albert.

Sir John Frederick William Herschel, Baronet, F.R.S.

Vice Admiral Robert Fitzroy, Director of the Meteorological Department of the Board of Trade.

Major General Edward Sabine, President of the Royal Society of London.

Commander Matthew Fontaine Maury, of the Navy of the Confederate States of America.

Professor Heinrich William Dove, of Berlin.

Professor Lambert Adolphe Jacques Quetelet of Brussels, Perpetual Secretary of the Academy of Sciences of Belgium.

Dr. C. H. D. Buys Ballot, Director of the Royal Netherlands Meteorological Institute at Utrecht.

The Chairman then proceeded in the same way as regarded the Gentlemen whose Names he had suggested for election as Corresponding Members of the Society, vizt.

Monsieur Le Docteur Emile Bertherand, Algiers.

F. Maxwell Lyte Esqr., Bagnères de Bigorre.

A. W. S. Smith &

23d. March 1864.

A. W. S. Smith Esq., Jersey –
Le Chevalier Docteur Macario, Nice –
W. Bagnall Esq., M. D., Pau –
D. A. Freeman Esq., Mentoné –
Dr. Thomas Chaplin, Jerusalem –
E. T. Rogers Esq., H. M. Consul, Damascus –
Each of these Gentlemen was unanimously elected a Corresponding Member of the Society.

The Chairman directed attention to the great cost of printing the First No. of the Society's Journal, and stated that it was evident that so heavy an ex:pence could not be borne by the Society's funds, as the incurring of debt could not be avoided were a reduc:tion not to be made, in the way of diminishing the amount of matter, or otherwise – A conversation took place, in the course of which various sugges:tions were thrown out, with a view to the diminu:tion of the expence of producing the Society's Quar:terly publications, and the Society's other Expences; and Mr. Buchan was directed to give effect to these.

As regards the present state of the Society's Funds, the Chairman suggested that the Union Bank should be requested to allow the Treasurer to overdraw the Society's Account with them to the extent of One hundred pounds – This was agreed to – and the Chairman was requested, and agreed, in conjunction with the Treasurer, to arrange matters with the Union Bank accordingly – And the following Gentlemen were requested to act as a Committee, to examine the Accounts now rendered against the Society, and the present financial matters of the Society, vizt. The Chairman, Mr. Stephens, Mr. Stevenson, and Dr. Jackson – The Chairman Convener –

The J

23rd March 1864.

The Chairman communicated, as a gratifying evidence of the way in which the Society was being looked to by the public as a source of information on practical matters connected with the Atmosphere &c., a report from Mr Buchan detailing various instances in which he had been referred to for evidence in Lawsuits and otherwise.

On the motion of the Chairman, William Corbett Burder Esqr. Clifton, Fellow of the Royal Astronomical Society, was unanimously elected a Member of this Society – Annual Subscription to be ten shillings.

Meeting of Council, in the Society's Chambers, on 31st March 1864, at 2 P.M.

Present – Mr Milne Home – in the Chair –
Rear Admiral Ramsay –
Mr Hope –
Mr Cunningham –
Mr Core –
Mr Elliot –
Mr Johnston –
Dr Jackson –
Mr Stevenson –
The Secretary –
The Treasurer –

The Minutes of last Meeting, held on 23rd inst., were

were read, and found correct -

The Chairman stated his reasons for calling the Council together so soon after the last Meeting - and his having found that, in cases where Honors were proposed to be conferred on any Member of the Royal Family, the usage was to ascertain, first of all, the willingness of such Member to be proposed for such Honor and to have it con: ferred on him. That he had, in consequence, written, through the Secretary, to Major Cowell, who was in attendance on Prince Alfred here, inquiring what might be His Royal Highness' mind on the subject of His being elected an Honorary Member of the Society; and he read a Letter which he had re: ceived, in answer, from Major Cowell, in the following terms. "Holyrood Palace - 29 March 1864 - "Sir, I have the honor to inform you, in reply "to your letter of this day's date, that His Royal "Highness Prince Alfred would have much plea: "sure in accepting the compliment which the Members "of the Scottish Meteorological Society are desirous "of conferring upon him, by enrolling His Royal "Highness' name upon their Roll of Honorary "Members. I have the honor to be, Sir, Your "Most Obedient humble Servant (signed) J. C. Cowell. "A. Keith Johnston Esq. , Secretary -" The Meeting expressed their gratification at the receipt of this communication; and unanimously elected His Royal Highness the First Honorary Member of the Society -

The matter to be embraced in the forthcoming No. of the Journal was then taken up, and a conversation took place as to whether, and to what extent, that No. should be curtailed in it's amount of

of matter, and in its Price – It was ultimately agreed on that forty pages of matter should not be exceeded in the said next No., and that its Price should be Half a Crown – It was further resolved that forty pages should be the amount of matter to be contained in future No.s of the Journal, unless otherwise directed –

The Treasurer mentioned that Mr. Muir Mackenzie had intimated a wish to be transferred from the List of Annual to the List of Life Members of the Society, and, on the motion of the Chairman, it was agreed that he should be transferred accordingly.

On the motion of the Chairman, the following Members of Council were appointed a Committee to investigate the Financial state of the Society, vizt., The Chairman, Admiral Ramsay, Mr. Stevenson, Mr. Cunningham, Mr. and Mr. Stephens – The Chairman Convener – The Committee to report to next Meeting of Council –

Inasmuch as several Members of the Society have intimated a wish to have the benefit of paying up their Annual Subscriptions in the form of a Life Subscription; it was agreed on that in any such case the practice be continued of accepting a sum equal to Five years' Annual Subscriptions, at the rate paid by the Member applying – provided that the Life Subscription to be paid shall not, in any case, be under Five pounds –

On the motion of the Chairman, Patrick Don Swan Esq., Provost of Kirkcaldy, and Henry Bowie Esq., for The Philosophical Institution, Edinburgh, were unanimously elected Annual Members of the Society –

Meeting of Council, in the Society's Chambers, on 8th April 1864, at half past Eleven, A.M.—

Present— Mr. Milne Home — in the Chair —
Mr. Stephens —
Admiral Ramsay —
Dr. Jackson —
Mr. Johnston —
The Secretary —
The Treasurer —

Mr. Primrose had sent an apology, for his necessary absence —

The Minutes of last Meeting of Council, held on 30th. ulto., were read, and found correct —

The Chairman mentioned his object in calling the present Meeting, as intimated with the billets, and he read a communication from Major Cowell, on behalf of His Royal Highness Prince Alfred, intimating that he had been pleased to say that he would receive a Deputation from the Council at a quarter before two o'clock this day — The communication is in these terms. "Holyrood Palace. 6 April 1864. "Sir, I have the honor to acknowledge the receipt "of your letter of yesterday's date, and am desired by "His Royal Highness Prince Alfred, to request that "you will have the goodness to express to the Members "of the Council of the Scottish Meteorological Society, "how sensible he is of the compliment which has "been paid to him, in electing His Royal Highness "an Honorary Member of the Society. I am further "desired to inform you that His Royal Highness "will be happy to receive the Quarterly Reports

"to [?]

"to which you allude, at a quarter before two o'clock on "Friday the 8th inst. from any Gentlemen of the "Society deputed to deliver them to him. I have the "honour to be, Sir, Your most obedient humble Servant, "T. C. Cowell - A. Keith Johnston Esqr., Hony Secy., "Scottish Meteorological Society."

The Council then proceeded to appoint a Deputation to present the Volume of Reports to His Royal Highness, viz. - The Right Honble Sir John McNeill, G.C.B., Rear Admiral Ramsay, C.B., The Honble Lord Neaves, David Milne Home Esq. of Wedderburn, Professor Christison, Henry Stephens Esq., Dr. Seracety Jackson, Alexander Keith Johnston Esq., the Meteorological Secretary, and the Treasurer -

The Chairman had prepared an Address for presentation to His Royal Highness, which was approved, and directed to be presented by the Deputation at their interview with him -

On the motion of the Chairman, Joseph Mawson Esq. London, proposed by Dr. Jackson, was unanimously elected an Annual Member of the Society.

The Council also agreed that, in intimating to the other Honorary Members, and to each of the Corresponding Members, their respective Elections, Copies of the two first Nos. of the Society's Journal should be sent to them - and that they should be asked whether they would desire to have the future Reports of the Society transmitted to them -

Meeting of Council, in the Society's Chambers, on 31st May 1864, at Two P.M.—

Present — The Most Noble The Marquis of Tweeddale.
Mr. Milne Home — in the Chair —
Mr. Stephens —
Mr. Hope —
Dr. Christison —
Mr. Johnston —
Mr. Cree —
Dr. Jackson —
The Secretary —
The Treasurer —

The Minutes of last Meeting of Council, held on 8th ulto., were read, and found Correct —

The Chairman reported that, as directed at last Meeting of Council, the Deputation then appointed had waited on His Royal Highness Prince Alfred, and presented the Address and the Volume of Reports, to him; and that he had received them very graciously —

The Chairman mentioned his object in calling this Meeting, and reported, from the Finance Committee, their proceedings under the Remit made to them on 31st March last. The matters submitted by him received the very earnest con:sideration of the Meeting, and the whole subject was, with instructions, remitted back to the Finance Committee, that they might carry out the views expressed by the Members of Council now present, and report to next Meeting of Council. The Gentlemen present who had not already indicated

31st May 1864.

indicated such Parties as they might think eligible for Membership, and to whom, therefore, Copies of the last Circular, and of No. I. of the Journal, might be sent with the hope of their joining the Society, agreed to mark the List which had been prepared - and directions were given for these Names being circulated among them and the other Members of Council who had not yet had an opportunity of seeing them.

On the motion of the Chairman, the following Annual Members of the Society were, on their own request, transferred to the List of Life Members, in terms of the Laws. Vizt.

David Cowan Esq. -
Richard Hunter Esq. -
George Hope Esq. -
Thomas Stevenson Esq. -
Admiral Ramsay. C. B. -
Professor Christison -
Andrew Coventry Esq. -
Robert Morrison Esq. -

and ~~W~~ William Bryce Esq., M.D., Dalkeith, and E. M. Ker Esq. of Gateshaw, both proposed by Dr Jackson, were unanimously Elected Life Members, in terms of the Laws - and the following Gentlemen were unanimously elected Annual Members, in terms of the Laws,

Duncan McLaren Esq., Chairman of The Edinburgh Chamber of Commerce - proposed by Henry Lawson Junr. Esq. - £1. - . -
Patrick Heron Watson M.D., proposed by Dr Jackson - . 10. -
D. Mickle, Lochhead, Aberdeen - . 10. -
Revd Walter Gregor, Manse, Pitsligo - . 10. -

The

31st May 1864 -

The Revd. Mr. Rusk, of Slains, was introduced to the Meeting by Mr. Johnston, and exhibited a specimen of a species of Stone which had been found, in large quantity, along the Sea Coast in the neighbourhood of Slains; and he presented to the Society a small Volume which he had published on the subject, and a specimen of the substance referred to. An animated con: :versation ensued, relative to such products of the Atmosphere, connected, or not, as they might be with volcanic Eruptions; and the thanks of the Meeting were offered to Mr. Rusk for his Book and communication.

The Treasurer mentioned that it had occurred to him that, as the number of Members of the Society resident in Glasgow appeared to be far below what might have been expected, a special effort might with advantage be made to bring the Society's claims to support under the notice of Eligible Parties there, and that he proposed, if the Council approved, to proceed thither, shortly, for the purpose of making such an effort, taking care, of course, that the expence of such a journey should be kept within very narrow bounds, and the charging of any part of it against the Society being dependent on success or failure from the effort. The Treasurer was left to his own discretion in the matter -

Meeting of Council, in the Society's Chambers, on 13th June 1864, at Two P.M.

Present - Mr Milne Home - in the Chair -
Admiral Ramsay -
Dr Mitchell -
Mr Cove -
The Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 31st ulto, were read, and found correct -

The Chairman mentioned that his purpose in calling this Meeting was that steps might be taken in the view of the approaching Half Yearly General Meeting of the Society, and of the publication of the next No. of the Quarterly Journal -

It was resolved that the Half Yearly General Meeting should be held on Wednesday the 29th inst., at One o'clock, in the Hall No. 5 St Andrew Square - The Marquis of Tweeddale to be requested to take the Chair on the occasion, and failing His Lordship, Sir John Stuart Forbes -

The Chairman mentioned that Eight Essays had been received, in competition for The Marquis of Tweeddale's Prize for Essays explanatory of Popular Weather Prognostics, of which number four were from England, one from Norway, and three from Scotland.

It was agreed on that a Meeting of Council should be called for Wednesday the 22d inst., at 12 o'clock.

The following Gentlemen were, on the motion of the Chairman, unanimously elected Members -

13th June 1864.

Member of the Society, viz. –
As a Life Member –
P. B. Swinton Esq., Factor to the Marquis of Tweeddale – proposed by George Hope Esq. –
And as Annual Member –
Dr. A. K. Irvine, 3 Crescent Place, Glasgow – proposed by Dr. Mitchell –
William Dods Esq., Haddington, and Robert Brail Esq., Aberlady – both proposed by George Hope Esq. –

Letters returning thanks for their Election as Honorary Member of the Society had been received from the following Gentlemen, and were read to the Meeting, viz. –
Sir John F. W. Herschell, Bart. –
Professor Quetelet, of Brussels – and
Dr. Buys Ballot, of Utrecht –

Meeting of Council, in the Society's Chambers, on Wednesday, 22d June 1864, at 12 Noon -

Present - Mr. Milne Home - in the Chair -
Mr. Hope -
Dr. Jackson -
Admiral Ramsay -
Mr. Cox -
Mr. Stephens -
The Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 13th inst., were read, and found correct -

Dr. Jackson, who stated that he was obliged to leave Town shortly after One P.M., requested permission to bring under the notice of the Meeting, at this stage of their proceedings, the Report of the Medico-Climatological Committee of the Council - The Report was adopted, and directed to be inserted in the out: :coming No. of the Journal - And the thanks of the Council were directed to be expressed to Mr. Teyssaire -

On the motion of Mr. Hope, Alexander Scott Esq., Branston, Haddington, was unani: :mously elected a Life Member of the Society.

Mr. Buchan laid on the table an Account rendered by Messrs. Blackwood, as publishers of the Society's Journal, bringing out a Balance in favor of the Society of £6.1.1 - And also an Account of their Expences and Sales connected with "Weather Prognostics", bringing out a Balance of

22d. June 1864 -

Balance in favor of the Society of £1. 12. 8 -

The Chairman and Admiral Ramsay agreed to meet, in the Society's Chambers, on Tuesday first, at half past Eleven; and to audit the Treasurer's Accounts for the past year.

Letters were read, from The Marquis of Tweeddale and Sir John Stuart Forbes, each expressing his uncertainty as to his being able to attend the Half yearly General Meeting to be held on 29th inst.; and it was agreed that, in the Event of neither being present, Sir John McNeill should be requested to take the Chair -

Mr. Hudson reported progress in the preparation of the outcoming No. of the Journal, and the prospect of an increase to the number of Advertisements for it -

It was agreed that a Station should be established at Ballater, under Dr. Meikle, of Lochhead Hydropathic Establishment -

Meeting of Council, in the Society's Chamber, on Wednesday the 29th. June 1864. at half past twelve, Noon.

Present. Mr. Milne Home. in the Chair.
Mr. Stephens.
Dr. Jackson.
Mr. Johnston.
Admiral Ramsay.
Mr. Love.
The Secretary.
The Treasurer.

The Minutes of last Meeting of Council, held on 22d. inst., were read, and found correct.

The Treasurer's Accounts, for the Year ending this day, as docqueted by the Chairman and Admiral Ramsay, and bringing out a Balance of Twenty four pounds six Shillings and twopence half penny in the hands of the Treasurer. and to go to his Debit in his next Account, were laid on the table.

The Chairman read a Report from the Council, which he had prepared for the General Meeting about to be held, and it was approved and adopted.

Mr. Stephens mentioned that he had been in communication with Mr. Christopher Webster Kerr, Writer, Dundee, and that that Gentleman had kindly offered to exert himself in furthering the interests of the Society, in Dundee and the Neighbourhood, to canvass for Members, distribute the Journal, collect Subscriptions, and remit the same to the Treasurer,

Treasurer, free of charge. The Treasurer was directed, as requested by M. Kerr, to transmit to him signed blank Receipts when Subscriptions should be payable.

M. Stephens suggested that M. Buchan should direct his attention to the Grain, Turnip, and Potatoe, Crops of 1861 and 1863, with the view of ascertaining the Meteorological conditions which had determined the produce of these during the Years mentioned. This was agreed to.

The Chairman also suggested that M. Buchan's attention should be directed to the subject of Storms, toward investigating that subject.

On the motion of the Chairman, James Richardson Esq., Coates Crescent, was transferred from the List of Annual, to that of Life, Members. and David Butler Esq. Farmer, South Corston, Coupar-Angus, as recommended by M. Gibb, Kettins, was unanimously elected an Annual Member of the Society.

On the motion of D. Jackson, it was agreed that Walter K. Evans Esq. Lisbon, and D. Pietra Santa, Physician to the Emperor of the French, in Paris, should be proposed to the General Meeting for Election as Corresponding Members of the Society.

HALF-YEARLY MEETING OF THE SCOTTISH METEOROLOGICAL SOCIETY.

(From the Edinburgh Evening Courant of June 30, 1864.)

Yesterday the half-yearly general meeting of this society was held in No. 5 St Andrew Square. Mr David Milne Home (in the absence of the Marquess of Tweeddale) was called to the chair; and among other gentlemen present were the Rev. Dr Bowie, Kinghorn, the Rev. Dr John Alexander, Admiral Ramsay, Major Hay, Dr Seller, Dr Scoresby-Jackson, Dr Bremner, Mr Hope of Fentonbarns, Mr Maclagan of Pumpherston, Mr Miller of Leithen, Mr Henry Stephens, Mr Keith Johnston, &c.

Mr Gibson, honorary treasurer, read the following report by the Council of the Society:—

"In compliance with the rules and the practice of former years, the Council submit a short report on the present state of the society, and on the proceedings of the last six months.

"The total number of stations in Scotland from which monthly returns are now received is seventy-one. Their position will be seen from the map on the walls: a few more stations on the west coast, and particularly among the islands of Argyllshire, would be desirable. Besides these stations in Scotland, the society has now established seven or eight in different parts of Southern Europe, to most of which invalids from Great Britain are in the habit of resorting. In the course of a short time a regular series of observations from them may be expected, which will be remitted to the Climatological Committee to examine and report on. The observations from the society's stations having now continued for nearly nine years, and reports founded on these having been drawn out by our meteorological secretary, representing with tolerable correctness the principal features of the climate of Scotland, not merely as a whole, but in the different districts of the country, the Council have directed the attention of our officer to a larger field of inquiry, embracing England and Ireland. The first object has been to compare the temperatures of the three divisions of the United Kingdom, and with that view maps have been prepared showing the lines of equal temperature for different months of the year on an average of years.

"The Council contemplate an investigation soon in a still larger field of inquiry—viz., the origin, formation, and progress of those great storms which sweep across Europe, and which prove sometimes so destructive to life and property both on sea and on land. The subject is attended with much difficulty. Some of the curious points involved in it will be explained at this general meeting by our meteorological secretary, who, at the request of the Council, will give a general notice of a storm which passed across Great Britain last winter.

"The Council are happy to be able to say that the numbers of the society's members are rapidly augmenting, and that the income of the society is improving. Our ordinary members now number 358, of whom 50 have joined since the last general meeting. Power having been given by the general meeting last January to elect both honorary and corresponding members on condition that the names were submitted to the next general meeting after their election, the Council have to report that at a meeting of Council held on the 31st March last, the following honorary members were unanimously elected:—His Royal Highness Prince Alfred Ernest Albert; Sir John F. W. Herschel, Bart.; Vice-Admiral Fitzroy; Major-General E. Sabine, President of the Royal Society of London; Commander M. F. Maury, of the Navy of the Confederate States of America; Professor H. W. Dovè of Berlin; Professor L. A. J. Quetelet of Brussels; Dr Buys Ballot of the Observatory of Utrecht. The following were elected as corresponding members:—Monsieur le Docteur Emile Berthrand, Algiers; F. Maxwell Lyte, Esq., Bagneres de Bigorre; A. W. P. Smith, Esq., Jersey; Le Chevalier Docteur Macario, Nice; W. Bagnell, Esq., M.D., Pau; D. A. Freeman, Esq., Mentone; Dr Thomas Chaplin, Jerusalem: E. T. Rogers, Esq., H.M. Consul, Damascus. The Council also at a meeting held this day added to the list of corresponding members—Walter H. Ivens, Esq., Lisbon; and Dr Pietra Santa, Physician to the Emperor of the French, Paris.

"The Council considered it due to his Royal Highness Prince Alfred to communicate his election by an address presented to him by a deputation from the Council, and at the same time to request his acceptance of a copy of the society's reports for the past six years, bound into one volume. The deputation consisted of the Right Hon. Sir John M'Neill, the Hon. Lord Neaves, Rear-Admiral Ramsay, Professor Christison, Dr Scoresby-Jackson, Mr Henry Stephens, Mr Milne Home, Mr A. Keith Johnston, honorary secretary; Mr Buchan, meteorological secretary; Mr Gibson, honorary treasurer.

"It may be remembered that last year the Marquess of Tweeddale, with his usual liberality and discrimination, offered a prize of £21, or a piece of plate of that value, for the best essay explaining on scientific principles the popular prognostics of the weather collected by Dr Arthur Mitchell, a member of our Council. The time appointed for these essays being given in was 1st May. Eight essays have been lodged, three of which are from Scotland, four from England, and one from Norway. An adjudication of this prize has not yet taken place.

"It is right here to notice a very important change which the Council have made on the form of the society's quarterly reports. These have now ceased, at least under that title, and in place of them there is issued quarterly the journal of the society, containing more matter, printed on a better type, and having a suitable title-page.

"It is seldom, however, that improvements can be made, without some disadvantage being occasioned by the change. The expenditure of the society has been very considerably increased by the new form of publication adopted; and unless the society's income be considerably augmented, the Council entertain doubts whether the journal can be continued. An augmentation of income may, however, be obtained by an increase in the number of annual subscribers, which, it is thought, may easily be accomplished. The Council believe that it is only necessary to make more generally known the objects of the society, and the important results already accomplished by it, to bring about a large accession of new subscribers. The Council think that this object might be easily accomplished if every member of the society would undertake from among his personal friends to obtain two or three new subscribers. This duty the members of the Council have agreed to impose on themselves; and they hope that they may be aided in it by the general body of the society. This appeal they make with the less hesitation as the need of more funds has been occasioned chiefly by the establishment of the new journal, copies of which are supplied without charge to both members and observers. If the society's income can be raised by only £50 or £60 yearly, the Council will be freed from all financial anxiety.

"An abstract of the funds of the society for the year ending this day is now laid before the meeting, and will be printed in the forthcoming number of the journal.

"The Council very much regret to observe the want of punctuality on the part of members in paying their yearly subscriptions—a circumstance which of itself occasions both trouble and expense to all parties. The Council are afraid that to meet this evil there is only one course to be followed, and which all other societies in like circumstances adopt—viz., to give power to the Council to deprive those members of their privileges who allow their subscriptions to fall into arrears for three years; and they now accordingly advise that such a by-law be passed by this general meeting."

The statement of accounts for the year ending 29th June 1864 showed that the total receipts had been £475, 13s. 10½d., and the expenditure, £425, 17s. 1d.

Dr Seller moved the adoption of the report, leaving the proposal for the collection of arrears to be dealt with by a separate motion.

The report was adopted.

Mr Miller brought under the notice of the meeting the necessity for a capital fund being formed out of the subscriptions of the life members of the society; and expressed a hope that the Council would keep this subject in view.

The Chairman said that the Council had it in view to establish a capital fund in the way suggested by Mr Miller as soon as they found it practicable to do so.

Mr Alexander Buchan, meteorological secretary, gave an interesting notice of the storm of December 1863, particularly as recorded by the self-registering instruments at the Liverpool Observatory. The address was farther illustrated by a number of beautiful diagrams, showing the course of the storm over Europe.

On the motion of the Chairman, a vote of thanks was given to Mr Buchan for his paper.

Major Hay proposed that the Council of the Society be empowered in any case in which the subscriptions of an annual member might remain unpaid for three years in succession, to deprive such member of his privileges, reserving power to the Council to claim payment of the unpaid subscriptions.

Dr Seller seconded the motion; which was agreed to.

A vote of thanks was then given to the Chairman, and the proceedings terminated.

Meeting of Council, held in the Society's Chambers, on 23rd September 1864, at Two P.M.:-

Present - Mr Milne Home - in the Chair -
Admiral Ramsay -
Mr Cox -
Capt. Thomas -
The ~~Treasurer~~ Secretary - Absence in the Country prevented the Treasurer's attendance -

The Minutes of last Meeting of Council, held on 29th June last, were read, and found correct.

It was agreed that the following Papers should appear in next No. of the Journal.

1st.- Weekly Extreme Temperatures and Amount of Rainfall in Scotland for November December January and February on an average of Seven years - By Mr Buchan -

2d.- On the Weather Conditions which produce large Crops of Turnips and Cereals - By Mr Buchan -

3d.- On the Climate of Pau - By Dr Drury Ottley -

4th.- Report of the Committee on Medical Climatology -

5th. Meteorological Observations at Additional Stations.

A Letter from Sir John S. Forbes was read, in which he recommended that a Station should be erected at Pitsligo - The Secretary was instructed to write, in answer, that the Council will willingly adopt Pitsligo's as a Station, provided Instruments be obtained by the local Parties -

The Thanks of the Council were given to Capt. Thomas for Observations made by him on the Temperature of the Air, and the Sea, at Trinity, during

23 September 1864 -

during March April May and June last -

A Notice of a new Form of Anemometer, by Mr. Arthur Forbes, was laid before the Meeting, and was ordered to lie on the table for further examination.

On the Motion of the Chairman, the following Noblemen and Gentlemen were unanimously elected Members of the Society, viz. -

As a Life Member -

Charles William Cowan Esq. Valleyfield -

and as Annual Members -

His Grace the Duke of Argyll -

The Earl of Lauderdale -

Lord Polwarth -

John Gibson Esq., Woolmet -

Allan Elliot Lockhart Esq. of Borthwickbrae and Cleghorn -

Revd. J. Chadwick Bates, M. A., F. R. A. S., F. G. S., &c., St. Martin's Parsonage, Castleton Moor, near Manchester -

William W. Watson Esq., City Chamberlain, Glasgow.

Malcolm McLennan Esq., Procurator Fiscal, Wick.

John Bisset Esq., North of Scotland Bank, Portsoy -

James C. Cunningham Esq., 602 West Bow -

James Bisset Esq., Inverury.

Meeting of Council, in the Society's Chambers, on 21st. December 1864, at 2 P.M.

Present - Mr. Milne Home - in the Chair -
Dr. Scoresby Jackson -
Dr. Mitchell -
Mr. Cunningham -
Mr. Johnston -
Admiral Ramsay -
Honble. Mr. Primrose -
Mr. Stephens -
The Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 23d. September last, were read, and found correct -

The subject of materials for next No. of the Journal was then taken up, when it was resolved that the following should go to form the Contents of No. 5 of the Journal, viz:-

1. Translation of a Paper, by M. Ch. Martins, on the Heating Power of a Ray of the Sun on high Mountains and on Plains -
2. On the luminosity of Phosphorus, and its relations with Ozone, Storms, and Disease, by Dr. Moffat, Hawarden -
3. Notice of a New Form of Anemometer, by Arthur Forbes Esq. of Culloden -
4. Sea Temperature in the West of Scotland - Observations taken by Capt. Bedford, R.N., Oban.
5. Comparison of Climates of Pau and Biarritz, by Dr. D. Ottley -
6. Report of Committee on Medical Climatology -
7. Meteorological

7. Meteorological Notes and Returns of the Quarter.

Observations on Under ground Temperature of Drained and Undrained Mountain Pastures, by Mr. John Garnock, North Esk Reservoir, were laid on the table. They are a continuation of the Observations formerly made, by this Observer, in competition for the Marquis of Tweeddale's prize, not yet decided. They were ordered to lie over, for examination.

The Chairman explained the cause of Mr. Buchan's having been prevented, in the meantime, from completing the Paper ordered at last Meeting of Council.

A communication from Mr. George Seton, Secretary of the Registrar General, was intimated, and it was agreed that Returns may be asked for from Leith and Dundee, by Mr. Buchan, if necessary. Mr. Milne Home promised to write to Lord Kinnaird, as to Dundee.

Offers to establish Stations at the following places were accepted, viz.

Auchendrane, near Ayr.

Deanston, near Doune, Perthshire.

Aberdour, Fife.

Uig, Isle of Skye, for Rainfall only.

Thanks to the Edinburgh Chamber of Commerce, for their Donation of Five Guineas, were cordially voted.

It was decided that the Memorial submitted to that Chamber should be sent to the other Chambers of Commerce in Scotland.

A Vidimus of the present state of the Society's Funds was laid on the table, by the Treasurer, and remitted, for consideration, to the Chairman, Admiral Ramsay, Mr. Stevenson, and Mr. Cunningham.

The

21st December 1864.

The Half yearly General Meeting, it was agreed, should be held on Thursday the 19th January, being the day after the Meeting of The Highland &c Society.

Dr Mitchell reported his having read over the Essays on Weather Prognostics which had been given in competition for The Marquis of Tweeddale's Prize, and that they appeared to him to be of merit.

Dr Mitchell agreed to give an Address, at the approaching General Meeting – the subject to be the Weather of Ellary, in its Effects on health.

Mr Buchan laid on the table a large number of Books which had been presented to the Society, and thanks for them were expressed, and it was directed that they should be enumerated in the outcoming No of the Society's Journal, and the thanks of the Council, to the Donors, be expressed.

The Treasurer reported that, since last Meeting of Council, the following Noblemen and Gentlemen had intimated a wish to be admitted to the Membership of the Society, Viz. –

As Life Members.–

The Right Honble The Earl of Home.–

William Nathaniel Forbes Esq. of Dunottar and Netherley.

And as Annual Members.–

The Right Honble Lord Elcho.–

The Honble Lord Kinloch.–

Sir James Horn Burnett, of Leys, Bart.–

Sir George Ramsay, of Bamff, Bart.–

W. J. Fleming Esq., Glasgow.–

Alexander Harvey Esq., – Do.–

James Paton Esq. of Lethangie.–

James Cooper Esq., Glasgow.–

John Tennent Esq., St Rollox, – Do.–

Abram

21st. December 1864.

Abram Douglas Esqr., Mayfield, Dalkeith—
Dr. Scott, Ilkley, Yorkshire—
John Finlay Esqr., Deanston, Doune—
Henry Conant Esqr., Willimantic; U.S.A.—
Mortimer Evans Esqr., Strathaven—
A. Geikie Junr. Esqr., Pitkowie, Coupar-Angus—
James Napier Esqr., Engineer, Glasgow—
David Cook Esqr., Inland Revenue, Edinburgh—
James Melvin Esqr., Bonnington, Ratho—
Dr. Matthew Nimmo, Dundee—
David Berry Esqr., Do.—
John Kirkland Esqr., Do.—
Christopher Webster Kerr Esqr., Do.—
Dr. Craig, Aberdeen—
J. S. Oliver Esqr., 59 Princes Street, Edinburgh—
Archibald Sutter Esqr., Civil Engineer, Edinburgh—

Meeting of Council, in the Society's Chambers, on 5th. January 1865, at 2 P. M. -

Present - Mr. Milne Home - in the Chair -
Mr. Stephens -
Dr. Mitchell -
Capt. Thomas -
Mr. Stevenson -
Mr. Johnston -
The Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 21st. December last, were read, and found correct -
The Chairman mentioned that the chief object for his calling this Meeting was, as intimated in the billets, had been that the place, and day & hour, for the approaching Half Yearly General Meeting of the Society might be decided on - And it was agreed that the Meeting should be held in the Hall No. 5 St. Andrew Square, on 19th. inst., at 2 P. M. - to be advertised in The Scotsman, Courant, and Daily Review - twice in The Scotsman, and once in the other two papers -
A Report from the Finance Committee appointed at last Meeting of Council was read to, and considered by, the Meeting, in absence of Mr. Buchan - as was, also, a Letter which he had addressed to the Chairman on the subject of that Report, which last he had had submitted to him; and the Report, with the Letter, was re-committed, to the Finance Committee, for ~~its~~ farther consideration -
The

6th January 1865 –

The subject of changes in the Membership of the Council was then taken up, and the Law of the Society on the subject was read. It was directed that the following Gentlemen should be waited on by the Treasurer, with a view to its being ascertained whether they would be willing to join the Council, if elected, Vizt., James Sanderson Esqr., Surgeon Major, Her Majesty's Madras Army, Duncan McLaren Esqr., Newington House, and Robert Mackay Smith Esqr., Bellevue Crescent, the Members who, it appeared, fall to retire in rotation, being Lord Neaves, Sir John McNeill, and Mr Cox –

Members of the Society,

Instructions were given to intimate to Mr Scott that her Room would not be rented by the Council after Whitsunday next –

Mr Buchan reported that, in terms of the instructions of the Council, he had written to the Society's Observers, with a request that each would furnish the Registrar General with a Return, weekly, of Temperature and Rainfall, and that each had agreed to do so –

The following Parties were, on the motion of the Chairman, unanimously elected Members of the Society, in terms of the Laws – Vizt –

Dr James Howden, on behalf of the Montrose Royal Lunatic Asylum.

Charles Morton Esqr., W.S. –

J. N. Mackie Esqr., 108 Prince's Street –

George Harrison Esqr., North Bridge –

The Treasurer was directed to write to The Marquis of Tweeddale, expressing the Council's hope that His Lordship would preside at the approaching Half yearly General Meeting –

The

In the event of His Lordship's not being to preside, Sir John Stuart Forbes to be written to, with the expression of a similar hope as to him -

Meeting of Council in the Society's Chambers, on 18th January 1865, at Half past One, P.M. preparatory to the Half Yearly General Meeting of the Society to be held at Two - and for any other Business -

Present - Mr Milne Home - in the Chair -
The Most Noble The Marquis of Tweeddale -
Mr Stephens -
Admiral Ramsay -
Mr Johnston -
Mr Cox -
Dr Mitchell -
Mr Stevenson -
Mr Primrose -
Mr Cunningham -
Sir John Stuart Forbes -
Mr Elliot -
The Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held

19th January 1865.

held on 6th inst., were read, and found correct.

The Treasurer stated that, as instructed at last Meeting, he had intimated to Mr. Scott that the Room at present occupied by the Society would not be required after Whitsunday next.

The Treasurer reported that, as directed at last Meeting, he had waited on Messrs. Sanderson, McLaren, and Smith, and that each had expressed, very cordially, his willingness to join the Council, if elected, and indicated a hearty interest in the progress and success of the Society – and that he had also, as directed, written to The Marquis of Tweeddale, and received an answer from His Lordship, intimating his purpose of presiding at the General Meeting.

The Treasurer further reported that, since last Meeting of Council, the Gentlemen whose Names follow had intimated their wish for admission to the Membership of the Society, viz. –

Josiah Livingston Esq., 4 Minto Street £–.10.–
James Colston Esq., 30 Findhorn Place – .10.–
Alexander Ramsay Esq., Manager of The Edinburgh Water Company – .10.6
Edward Ayton Esq., 1 Charlotte Place – .10.–

Each of these Gentlemen was, on the motion of the Chairman, unanimously admitted an Annual Member of the Society, in terms of the Laws.–

SCOTTISH METEOROLOGICAL SOCIETY.

Daily Review of 26 Jan. 1865

The half-yearly meeting of the members of the Scottish Meteorological Society was held yesterday afternoon, at No. 5 St Andrew Square—the Marquis of Tweeddale, the president, in the chair. There was an average attendance, and among those present were —Sir John Forbes, Bart.; Mr D. Milne Home of Wedderburn; Rear-Admiral Ramsay; Hon. Bouverie F. Primrose; Mr W. Elliot of Wolflee; Mr Henry Stephens; Mr Thomas Stevenson, C.E.; Mr James Cunningham; Dr Arthur Mitchell; Major Hay; Mr A. Keith Johnston; Mr Thomas H. Core; Mr George Seton; Captain Thomas, R.N.; Dr Baikie; Dr James Sanderson; Dr Key; Mr J. W. Mackie, Mr M. F. Ogilvie; Dr Bremner, &c.; and several ladies.

After some business of a routine nature had been disposed of,

Mr MILNE HOME read the report of the council, which was as follows:—

"The council are happy to be able to report that the main business of the society, which is to receive monthly returns from stations and publish the results, goes on efficiently.

"The number of stations in Scotland, as reported to the last general meeting held in June, was seventy-one. The number is now seventy-eight, the new stations being Inverary, Portsoy, Ballater, Montrose Lunatic Asylum, Deanston, Auchendrave, and Leith.

"There are also eight foreign stations, often visited by invalids, from which stations returns are periodically sent to the Convener of the Climatological Committee.

"It having appeared to the Registrar-General desirable that a weekly return should be published from the six principal towns in Scotland of the mortality and conditions of the atmosphere prevailing in them, the council of the society, on being applied to by that officer, willingly co-operated to bring about that arrangement; and, accordingly, the publication of these returns commenced with the new year.

"At the last general meeting it was mentioned by the council that the Meteorological Secretary, having pretty fully reported on the climate of Scotland in its several districts, was to institute an inquiry into the laws which determine the formation and progress of violent storms of wind. The investigation has proved very laborious, and it has not yet been brought to a conclusion; so that in the number of the *Quarterly Journal* just published there will be no report, as usual, from the secretary on any special subject. The great importance and great difficulty of the investigation relating to storms are, in the opinion of the council, good reasons for both caution and deliberation in framing a report on this subject.

"The council, in their last half-yearly report, pointed out the necessity of improving the financial position of the society, to enable the council to carry on its business on the more extensive scale latterly adopted; and they are happy to say that this appeal has been so far responded to that during the last six months fifty-two new members have joined the society. The council have much pleasure in taking special notice of the fact that the Edinburgh Chamber of Commerce has passed a resolution to give this society its support, and has voted a handsome donation to its funds. The council are not without hope that the other Chambers of Commerce throughout Scotland will follow the precedent, especially when it becomes known to them that the objects and investigations of the society have so direct a bearing on the shipping and mercantile interests. The council are happy, also, to allude to the frequent applications made to the office for meteorological information bearing on practical questions by physicians, farmers, civil engineers, and law agents. Within the last few weeks, the City Chamberlain of Glasgow, being desirous of drawing out statistical returns of mortality for that town and its neighbourhood, has obtained from the society's office returns for the last two years of temperature, winds, rain, moisture, and atmospheric pressure applicable to that part of Scotland.

"According to the rule of the society, three members of the council retire annually, and other three subscribers are elected in their place at the general meeting in January. The council beg leave to suggest for election:—Mr R. M. Smith, merchant, Leith; Mr James Sanderson, surgeon, Madras Army; and Mr Duncan M'Laren, President of the Edinburgh Chamber of Commerce, in place of the Right Hon. Sir John M'Neill, the Hon. Lord Neaves, and Mr Core, Normal School, Edinburgh.

Mr SETON moved the adoption of the report, which was unanimously agreed to. He then referred to the Registrar-General's weekly returns from the six principal towns of Scotland and to the assistance the society had given by furnishing meteorological reports. The public, he said, had taken a great interest in these weekly returns—much more than had been at first anticipated. The society must be gratified to hear such a favourable report in regard to membership; but he was of opinion that much more could be done in this respect. He had been himself the means of getting a number of gentlemen to join the society; and he took every opportunity of recommending its objects and advantages. If other members would do as he had done—and he had not done much—the interests of the society would be greatly promoted. The society should have among its membership representatives of every section of the community; and he believed the public were beginning to discover the usefulness of such an institution.

The Marquis of TWEEDDALE congratulated the meeting on the increasing interest bestowed upon the science of meteorology—an interest which he believed had been in a great measure produced by the proceedings of this society. (Hear, hear.) This was abundantly evidenced both by the increase in the membership and by the countenance given to the society by the men of science and distinction who had joined the institution since it began to develop. All institutions while in a state of infancy required a considerable time to get their machinery into working order; and their success depended very much upon the usefulness of their objects, and upon the degree in which they were calculated to reward research by affording instruction and benefit. Since the formation of the society its directors had been engaged collecting meteorological facts, authenticated by the observers who were located in all parts of Scotland. He had the greatest confidence in appealing to the records of the *Meteorological Journal* as an evidence of the industry and ability with which the observers, the secretary, and particularly, the President of the Council, had brought the information collected under the attention of those members and philosophers who took an interest in this particular branch of science. (Applause.) There were few countries, so far as he was aware, which were so advantageously situated for meteorological observations as Britain. Members of this society were to be found in all parts of the world, and no subject required such an extensive range of observation as meteorology. The society had been engaged in collecting information relative to the temperature as well as the rain-fall in our own sphere—and perhaps they had gone a few inches into the ground. (Laughter.) He believed that some day they would be enabled to induce the members connected with the mining interests of Scotland to make a report on the temperature of the mines as well as on the strata of the bowels of the earth. He might mention how much pleased the directors had been to be able to give information to the Registrar-General with regard to the temperature and rain-fall of the six principal towns of Scotland. This not only showed that the proceedings of the society had been approved of in Scotland, but also the interest felt in its behalf in England, where perhaps meteorological observation was conducted on a more extensive scale than here. In consequence of the difference of opinion which existed in regard to the nature in which storms move, he had taken upon himself the duty of writing to the Swedish Consul at Leith, requesting him to procure the record of the storms that blew from the north—if they were registered at the North Cape—together with the dates of their occurrence, for the purpose of submitting them to the society. This information, if obtained, would enable them to judge whether a storm came straight with the wind, or in circles, as some said. The answer returned by the Consul was, that he did not possess the required information himself, but that he would write to the Consul-General at London, who, he had no doubt, would be able to accede to the request. (Applause.)

Dr MITCHELL read a paper "On the Weather of May in its Relation to Health." He said—Dr Jackson remarks that our language teems with medico-meteorological apophthegems. Among these we have a Scotch one which refers to May. Proverbial wisdom sends us this warning, "Ne'er cast a cloot till May be oot." Similar cautions abound in other tongues. With a heavy kind of wit we are counselled by the Germans, "To stick to our winter things till the 40th May." It is the same idea which underlies this advice, "Who has a good log, let him keep it for May." Even the people of Venice and Milan, in more southern latitudes, have a like proverb casting a like slur on merry May times. It has a little more fancy in it, and runs thus, "May, lovely May, to thee thy roses, but to me my furs." It would appear from these proverbs that there is abroad in the people's mind a suspicion of May weather—a feeling that it is not what it seems to be, and that it should not be trusted. Let us see to what extent this is well founded. Everywhere in Scotland winter passes into summer through the months of May and June, and back again into winter through October and November. In the rise of temperature from winter to summer the great strides take place in May and June, and in the progress back the great falls occur in October and November. May is a warmer month than April by 7 deg., and June than May by 6½ deg. Except in October and November, no such leaps as these are made from month to month. The intervening spaces of winter and summer are comparatively equable. These four months, therefore, may be called transition months. They are the steps by which we reach and leave the warm periods of our year. This great stride of temperature which occurs in May depends on the rapid rate of increase of the power of the sun's rays at this period of the year, and the same influence is stretched into June. It depends on this solely, and not on any greater prevalence of warm winds. Indeed, the very opposite of this holds, for the rise of temperature takes place in spite of the fact that at no season of the year are cold winds more frequent or steady. Taking the year as a whole, we have twice as much wind from the SW. as we have from the NE., but their proportions vary greatly in the different seasons. In March, April, May, and June, we have the wind nearly as often from the cold NE. as from the SW. It is quite otherwise both in our months of great heat and of great cold, for then the SW. winds have their greatest frequency. Thus it happens that in the very dead of winter our prevailing winds blow from those very quarters from which they blow in the height of summer; while in spring and early summer, when our weather is becoming rapidly warmer and warmer, keen cold winds from Polar regions stream over us for about half the time. What our winters *would* be if the south winds loved them less it would be hard to tell. What our springs *are*, because the south winds love them so little, it is my present purpose to try to show.

Rain.—I need scarcely point out that these months of northerly winds are sure to be the driest of our year. Less rain falls in them, and it falls on a smaller number of days than in any of the other

months. The month of least rain for several years back was May 1859, when at many of the stations of the society *no* rain fell, and the mean rainfall for all Scotland was less than one-third of an inch. Our SW. winds come from equatorial regions heated by a vertical sun, and charged with the moisture they have licked up from the oceans of the southern hemisphere. They pass us on their way to Arctic regions, where the last of their moisture is squeezed out of them, and cold and arid they take their way back to the tropics. Of these two great and constant currents—north and south—sometimes the one and sometimes the other is uppermost. Every such change will be accompanied by a change in the rate of rainfall. The equatorial current, at its outset loaded with moisture, in its progress north has its temperature steadily lowered, except during one or two of the hottest months, and consequently has to part with some of the moisture with which it was loaded. So it is that it is a rainy wind. The NE. wind, dry when it begins its southward course, as it goes on gets warmer, and acquires a higher power of holding vapour in suspension; and thus it is that it is not a rainy wind—so far otherwise, indeed, that it is not only a dry but a drying wind—it has an actual thirst which it greedily quenches at every wet or moist surface over which it blows.

Range of Temperature.—I have already told you the general character of the mean temperature of the month of May; but we get little insight into the temperature phenomena of a month or a year from the simple study of monthly or annual means. For instance, the mean annual temperatures for all the various stations in Scotland do not differ greatly, the difference not exceeding 4½ deg., and if corrected for elevation, it falls as low as 1½ deg. It would be a great error, however, to conclude from this that there is little difference between the climates of the different stations. The same mean may come from very different figures. The temperature may be differently distributed over the year at two stations, yet their mean temperature may be nearly or exactly the same. Thus the mean temperature of Sandwick is 45·5 deg., and of Thirlestane 45·1 deg., yet there are no two places in Scotland whose climates are more opposed to each other. And so it is with months. The mean temperature of a month may not differ much from that which precedes or that which follows it, yet each may have had the temperature spread over it in a way strikingly at variance with the other two. In like manner it may be observed that the mean temperature of one month is every year a certain number of degrees above that of its precursor. But it would be quite a mistake to infer that this is the result of a steady rise of both day and night temperatures. The mean may have been brought up by higher day temperatures alone, or night temperatures alone may have risen, or there may have been unusual fluctuations in both. It is clearly not a matter of indifference in what way the rise is accounted for—out of what elements the mean flows. Though the mean of a month be high, yet if a few days of great cold occur during its course with such regularity as to be a character of its weather, or if the mean flow from excessive daily or monthly fluctuations, we may look for an influence on health differing from that which we could expect to attend the mean of the month as a whole. Now, as regards daily range of temperature, May stands apart from all other months of the year in this—that the range culminates in that month. It does so in every year, and does so in every part of Scotland. It appears that the daily fluctuations of temperature are excessive in this month, and that the great rise of temperature which occurs in May is produced more by a rise in the day than in the night temperature, so that there is less difference between the nights of April and those of May than between the days of the one and the other.

By far the greater number of our deaths occur during winter; and for eight or nine months mortality and temperature are related inversely to each other. It is so, indeed, in all those countries where the tendency is to die of diseases of the organs of respiration. And it is just the reverse where the tendency to death is through disease of the abdominal viscera, for there it is the hottest month, and not the coldest, that opens the mouth of the grave to its widest. In our climate during the hottest months deaths from diseases of the respiration organs fall, and those from diseases of the digestive organs rise. This takes place whenever the mean temperature rises to 60 degs. Below 55 degs., just as the temperature falls, the mortality increases. Thus, the chances of death by certain diseases vary with the seasons, and the march of temperature through the year regulates the manner of the people's dying. This is a fact well established, but not generally and to its full extent realised. In 1856, from 26th November to 5th December, a period of ten days occurred when the temperature fell considerably. During these ten days 1844 deaths occurred; while during the warmer ones before and after only 1505 occurred, giving a difference of 339, or 34 daily. But, though temperature influences mortality in a much greater degree than any other element of climate, yet the general mortality does not fall in exact proportion to the rise of temperature. Thus, during April, May, and June the temperature goes rapidly up, but the mortality does not go rapidly down. It goes down, but not rapidly down, as we should expect if temperature alone influenced the results. There must, therefore, be something in the weather of these three months, in addition to temperature, which influences the mortality—something inimical to health, which must neutralise the health, giving effects of sunshine and warmth. An examination of the Registrar's-General tables shows that the death-rate of these months is kept up by consumption—a disease well described as the great, constant, inexorable destroyer of our men and women in the prime of life, being the cause of nearly half the deaths which happen between the ages of fifteen and thirty-five. March, April, May, and June are the months when this dreadful disease exacts from us its heaviest tribute, and our payments in each of these four months are nearly equally heavy. In the height of summer its demands are at their lowest, and they remain comparatively low during all the cold and snow and frosts of winter. Diseases of the brain appear also to follow the same law, though not in so marked a manner, April and May being the months of highest mortality for this class of diseases. This injurious influence of spring weather upon the nervous system is in accordance with popular belief.

We now come to the consideration of the peculiarities in the weather of May which do probably interfere with the healthful action of its greater warmth. The cold week in May does not come and go without marking its passage by an increased mortality. The weekly mortality for London, in connection with its weekly temperature, shows that this cold week of May swells the mortality. In May 1862, when the depression of temperature was well marked, both the whole weekly mortality and the weekly deaths from consumption show a rise for the week following that of low temperature. Thus, there is good reason to believe that the mortality of May is increased by this peculiarity of its weather. The cold and character of the east winds probably exercise a still greater influence on the death-rate at this time of the year. These winds, being, as we have said, not only dry but drying, lick up moisture from everything they touch—from the skin and from the mucous membrane of the lungs—and thus rob the body of an enormous quantity of heat, which is absorbed and rendered latent in the conversion of the moisture into vapour. That they are injurious to human health and life is a common belief, and I think a well-founded one. That they interfere with comfort of body and contentedness of mind, he is a robust man who will not assert from his own experience. Poets generally have sung the praises of May as no meteorologist would have done. One recent poet thinks we should reckon the May of the poets of the old style, and of the actual May he indignantly asks—

"Is she not sprung of April's wayward race,
The sickly daughter of the unripened year,
With showers and sunshine in her fickle eyes,
With hollow smiles proclaiming treacherous peace,
With blushes harbouring in their thin disguise,
The blast that riots on the spring's increase?"

Meeting of Council, in the Society's Chambers on 15th February 1865, at Two P.M.

Present Mr. Milne Home in the Chair.
Mr. Primrose
Mr. Stephens
Dr. Mitchell
Dr. Jackson
Admiral Ramsay
Mr. Cunningham
Mr. Sanderson
Mr. Smith
The Secretary
The Treasurer

The Minutes of last Meeting of Council, held on 18th ulto., were read, and found correct.

Mr. Stephens mentioned the steps he had taken toward the establishment of a Station at Dundee. The Chairman also mentioned his having been in communication with the Provost of Dundee on the same subject. Thanks were returned to each.

The Chairman laid before the Meeting a Letter which he had received from The Lords of The Treasury, dated inst., relative to accommodation for the conduct of the Society's Business in the new General Post Office, and exhibited a Ground Plan of the Building, and pointed out the particular part of the Building which it was proposed to designate, temporarily, for the use of the Society. he also mentioned, ~~in detail,~~ the information, as to details, which he had received from The Master of Works.

He

15th February 1865.

He mentioned, further, that, along with the Treasurer, he had seen one or two Rooms, in George Street and Hill Street, which appeared not quite unsuitable for temporary occupation for the purposes of the Society. After full consideration of the whole subject, the Meeting agreed to accept the Offer from the Treasury, subject to the approval of the absent Members of Council – and instructions were given for continuing the looking out for a Room or Rooms in lieu of the present Room, which had been given up.

The Chairman read a Letter which he had received from Admiral Fitzroy, dated 15th inst., relative to the Complaints which had been made of Leith and Ardrossan's having been struck out of the List of Sea Ports from which Returns had been received, and published, by Admiral Fitzroy, and he stated that the Names of these two Ports had, since, been restored to the List referred to. The Chairman was requested to write to Admiral Fitzroy, with an expression of the gratification felt by the Council that he had seen fit so soon to remove all alleged grounds for Complaint such as those alluded to, and he was requested to take the opportunity for drawing the Admiral's attention to the fact, mentioned by Mr. Smith, that Heligoland also had been omitted in the List of Stations, though the Returns from that Island were of great importance, especially to Insurance Companies and other Parties connected with the Trade of Hamburgh.

The Secretary explained the progress he had made in preparing his Report on Certain

certain Storms which had occurred in Europe in October November and December 1863, and expressed a hope that he would be able to complete it in the course of the next three weeks.

The Treasurer directed attention to the fact that the supply of the Circular from the Council which had been in the course of being issued for the last two years was running low, and suggested the expediency of it's being revised and adapted to the more advanced state of the Society's progress since it was prepared; and it was resolved that this should be done. Mr. Stevenson had kindly offered to give his attention to the subject.

The following Gentlemen were, on the motion of the Chairman, unanimously elected Annual Members of the Society, in terms of the Rules, viz:-

Sir David Baxter, of Kilmaron, Bart.
Charles Murray Barstow Esq., C.A., Edinburgh.
Mr. Robert Gellatly, Watchmaker, Prince's Street.
Andrew Cuthbertson Esq., Greenside, Falkirk.
Andrew Mitchell Esq., Alloa.
Joseph Robertson Esq., High School, Inverness.

Meeting of Council, in the Society's Chamber, on 10th March 1865, at Two P.M.

Present - Mr. Milne Home - in the Chair -
Admiral Ramsay -
Mr. Johnston -
Mr. Smith -
Captn. Thomas -
Mr. Cunningham -
Mr. Stephens -
The Secretary -
The Treasurer -

The Minutes of last Meeting of Council, holden 15th February last, were read and found correct -

The Chairman mentioned that the present Meeting had been called for consideration of the subjects mentioned in the billets, vizt., Mr. Buchan's Report on Storms - Report from the Finance Committee - A New Office - and a new Circular from the Council -

Mr. Buchan laid on the table his Report on Storms - The Chairman stated that he had had an opportunity of perusing that Report, and that he had been much gratified in the course of doing so - that it appeared to him to be fitted to be of great utility, especially in some respects, which he specified particularly - Mr. Johnston, as being a Member of the Council of the Royal Society of Edinburgh, kindly undertook to peruse Mr. Buchan's Report, with a view to its being brought by him under the notice of that

that Council, that they might judge of it's suitability for being read before the Royal Society, and, if approved there, as there seemed to be good ground for hoping it would be, being published in that Society's Transactions. It was hoped that if it should be so published arrangements might be made for an Abstract of it being inserted in the Journal of this Society, subsequently to it's having been read to the Royal Society.

As regards a new Office, the Chairman reported that, since last Meeting, a couple of Rooms had been seen in No. 5 North Charlotte Street, which appeared preferable to any ~~which~~ of the others which had been seen, and very suitable for the purposes of the Society; and that, as these were offered, for the Year from Whitsunday next to Whitsunday 1866, at the Rent of Seventeen pounds, covering Coal, Gas, Attendance, and Taxes, he, with the concurrence of Mr. Stevenson, had directed the acceptance of the offer, and that it had been accepted accordingly.

The Chairman laid on the table a Report from the Finance Committee, who had given earnest attention to the whole matters embraced in it. It had been submitted to Mr. Buchan and Mr. Gibson, who had, each, expressed his concurrence in it, so far as his interests might be considered to be involved in it's adoption by the Council. On the motion of the Chairman the Report was unanimously adopted, and the recommendation at the end of it, as to it's being subscribed by each Member of the Council, as well as by the Officers of the Society,

Society, was also adopted.

On the suggestion of Mr Buchan, it was agreed that, in cases where Expenses were in:curred, the benefit from which would extend over more year than one, the Amount of such Ex:penses should be charged proportionally against the Revenue of such year.

The Chairman mentioned his having been spoken to by a Member of the Board of Commis:sioners for Northern Light Houses, as to whether certain Returns, made to that Board, of Observa:tions taken at the different Light Houses may not be made available for furthering the objects of this Society. That this subject had formerly been more than once under the ~~notice~~ consideration of this Council, but that difficulties, in the way of Expense and otherwise, had appeared to be in the way of "utilizing" the Returns referred to, and that he did not see his way toward their being got over. He agreed, however, to make further inquiry on the subject, with a view to ascertaining whether some of the Returns referred to, especially from localities where this Society has no Stations, might not be procured, and made available.

Mr Johnston read a letter from The Marquis of Tweeddale, in which, inter alia, His Lordship men:tioned his having had an interview with His Ex:cellency Baron Brunnow, the Russian Ambassador to this Country, and that His Excellency had stated that it would give him great pleasure to forward, in every way in his power, the objects of this Society, in the way of giving directions for the making of Returns of Observations made in Russia, or

Russia, or otherwise. - Mr. Johnston agreed to request His Lordship to express to His Excellency the Council's best thanks for his kind consideration.

Mr. Buchan submitted, in proof, a New Cir: :cular which he had prepared. It was approved and adopted - and directions were given for it's being printed, and issued in the same way as the former Circular had been, to parties considered likely to join the Society, whose Names might be found in the Lists of the New Club, The Merchant Company and Chamber of Commerce, The Chamber of Agriculture and Farmers' Club, &c., &c. -

Mr. Johnston, on the part of Dr. Scoresby Jackson, who was unavoidably absent, submitted a Report from the Medico-Climatological Committee, which, it was proposed, should form part of the next No. of the Journal; and it was agreed that it should do so. -

The Treasurer stated that, since last Meeting of Council, the following Gentlemen had intimated a wish for admission as Annual Members of the Society, viz: -

Samuel Hay Esq., Manager, in Edinburgh, of The Union Bank of Scotland - 4. - 10.6
Alexander James Russell Esq., C.S. - -. 10.6
Ramsay H. Traquair Esq., Colinton.
Revd. William Haine, of Brownlee, Lanarkshire.
Christopher Home Douglas Esq., C.A. Edin:.
Mr. William Oliphant Morrison, Printer, Edin: -. 10.6
Dr. Paterson, Balbeggie, Perth.

Each was, on the motion of the Chairman, unani: :mously admitted a Member, in terms of the Rules. -

The Treasurer further mentioned that Mr. O. G. Miller, Dundee, and Mr. Silver, London, had, each, intimated a desire to be transferred from the List of Annuals to that of Life, Members of the Society. Each was

was directed to be transferred accordingly. Mr. Miller had requested the Treasurer to propose as a Life Member of the Society, David Pitcairn Esqr. of Kinnaird, Fifeshire, and Mr. Pitcairn was elected a Life Member accordingly in terms of the Rules.

With reference to what passed, at last Meeting of Council, on the subject of a Station at Dundee, Mr. Stephens again reported; and the Meeting expressed their gratification at the prospect of a successful issue to the negociations which Mr. Stephens had been conducting there. An Excerpt from a Minute of Meeting of the Works' Committee of the Burial Board at Dundee, held on 4th. curt., was read; and the cordial thanks of the Council were voted to Mr. Kerr, the Town Clerk of Dundee, (and an old Member of the Society) and to the other parties there, who had lent their aid toward the expected happy result, which thanks Mr. Stephens was requested, and agreed, to communicate. Thanks were also returned to Mr. Stephens.

The Excerpt above referred to is in the following terms, viz.:

10. Meteorological Observations.

A Remit to this Committee by the Town Council at their Meeting on Second March current was read.

The subject was considered.

Communication was made with Mr. McKelvie on the subject and his willing assent to do ~~the~~ his part was expressed.

Resolved that it is expedient that the Burial Board of the United Parish should give aid for carrying out the objects of the Meteorological Society; and specially give aid in making

and

and reporting the Observations desired by the Registrar General with a view to the public health; and that it appears that the Board has peculiar facilities for carrying out what is desired.

Resolved to report this to the Board and to recommend to the Board to give authority for the ordering of the necessary Instruments (estimated to cost in all about Seven pounds) and for instructing the Superintendent (he being willing to undertake it) to undertake the Observations desired by the Meteorological Society.

Resolved that the Clerk be instructed to open the necessary communication with the Secretary of the Society, in order that it may be known what has to be done.

Certified by

(Signed) Chris. Kerr.

Meeting of Council held in the Society's Chamber, on 13th. April 1865.

Present - Mr. Milne Home - in the Chair -
Admiral Ramsay -
Mr. Stephens -
~~Mr.~~ Johnston -
Mr. Sanderson -
Mr. Hope -
Mr. Smith -
Dr. Scoresby Jackson -
The Secretary -
The Treasurer -

Sir John Hepburn Stuart ~~Hepburn~~ Forbes had written to the Treasurer that business, in the Country, must prevent his being present at this Meeting -

The Minutes of last Meeting of Council, held on 16th. March last, were read, and found correct.

The Chairman mentioned that, as stated in the billets, his chief object in calling this Meeting was that the Council might decide on an Offer which had been made to give accommodation to the Society, for the coming year, in the Premises of The Philosophical Institution; No. 4 Queen Street, through the kind offices of Mr. R. M. Smith - and also on the materials for the next No. of the Society's Journal - further, the subject for investigation to be taken up, next, by Mr. Buchan.

As regards the Offer of Premises, the Chairman, Mr. Smith, and Mr. Johnston, were appointed a Committee, with powers to consider the subject, bearing in mind the fact of Premises having

To

having already been taken for the coming year, and to arrange as to them might seem best in the circumstances.

The Chairman then brought forward the subject of materials for the next No. of the Journal. And it was resolved that these materials should consist of-

The Registrar General's Tables.
Notes of the Weather of the Quarter.
Abstract of the Secretary's Paper on Storms laid before The Royal Society.
On the Climate of Pau and Biarritz.
The usual Report on Medical Climatology.
Observations made at Castle Newe Station.
— Do. — — at Inveresk — Do. —
Additional Stations.
Table of Crops &c. for 1864.
Minutes of Meeting of the Council.

The subject for investigation to be next taken up by Mr. Buchan to be the Weather of Season 1864, in relation to the Crops of that Year.

It was agreed that an interchange of Publications should take place with the Royal Scottish Society of Arts, as proposed by that Society.

The Treasurer reported that since last Meeting of Council the following Gentlemen had agreed to their being proposed for Election as Members of the Society, Viz.—

As Life Member.
The Right Honble. John Inglis of Glencorse, Lord Justice Clerk.
Andrew Webster Esq. of Rutherford, S. S. C.
David Bryce Esq., Architect, Edinburgh.
John Fraser Esq., Manager of The Life Association of Scotland.

Andw

13th. April 1865.

Ordinary Annual Members.

Lawrence Robertson Esq., Cashier of the Royal Bank of Scotland. £1.1.–

William James Duncan Esq., Manager of the National Bank of Scotland. 1.1.–

William Thomas Thomson Esq., Manager of the Standard Life Assurance Co. 1.1.–

Patrick Brodie Esq., Manager of the British Linen Co. 1.1.–

Alexander Kincaid Mackenzie Esq., Manager of the Commercial Bank of Scotland –.10.6

Samuel Raleigh Esq., Manager of the Scottish Widows Fund Life Assurance Society 1.1.–

Robert Lennox Esq., 21 Lynedoch Place –.10.6

David Davidson Esq., Treasurer of the Bank of Scotland 1.1.–

Thomas Usher Esq., Brewer, St. Leonard's –.10.6

James Cowan Esq., Rockville, Napier Road –.10.6

James Moncrieff Melville Esq. of Hanley, W.S. 1.1.–

Mr. Robert Binnie, Seton Mains, Tranent –.10.6

On the motion of the Chairman, each of these Gentlemen was unanimously elected a Member of the Society, in terms of the Rules.

Meeting of Council, in the Society's Chambers, on 5th May 1865, at Two P.M. -

Present - Mr. Milne - in the Chair -
Mr. Stephens -
Mr. Cunningham -
Mr. Johnston -
Mr. Elliot -
Mr. Sanderson -
The Secretary -
The Treasurer -
Sir John H. S. Forbes had sent an apology for his necessary absence -

The Minutes of last Meeting of Council, held on 13th ulto., were read, and found correct -

The Chairman mentioned his reasons for calling the Council together so soon again, which were approved.

Before proceeding, further, to business, the Chairman moved a Resolution having reference to the so lamented Decease of Rear Admiral Fitzroy, in the following terms;

"The Council resolve to record their deep regret "at the untimely and deplorable death of Rear "Admiral Fitzroy, who has been for so many years "Superintendent of the Meteorological Department "of The Board of Trade -

"As the Council had frequent occasion to commu:"nicate with the deceased in his Official position, "they desire to bear testimony to the zeal and "assiduity with which he discharged his important "duties, and to the courtesy and readiness with "which he imparted information whenever applied to.

"They

6th May 1865.

"They wish, also, to express their sense of the great "services rendered by him to the Science of Meteorology, "and the advantages which resulted to the Community "generally, and especially to the Maritime and Com: :mercial interests, by his System of Weather forecasts "and Storm Signals; and they sincerely trust that "this system, followed as it now is by several other "Countries, will be continued by our Government, alike "as a fitting tribute to the memory of the distinguished "man who established it, and as a means of disse: :minating useful intelligence throughout Great "Britain and other parts of Europe.

"The Council request the Honorary Secretary to "transmit a Copy of the foregoing Resolution to the "Secretary of the Board of Trade, as also to the Widow "of the deceased."

The Resolution was unanimously adopted, and it was directed to be communicated to the Board of Trade, and to Mrs. Fitzroy, accordingly.

The Treasurer reported that, since last Meeting, the following parties had intimated their wish to be proposed for Election as Members of the Society, and each was, on the motion of the Chairman, unanimously elected, in terms of the Rules, Vizt.

As Life Members—

His Grace The Duke of Sutherland £5.-.-

John Sharp Esq. ~~John Sharp Esq.,~~ Chairman of the Chambers of Commerce, Dundee 5.5.-

Harry Walker Esq., Vice Chairman of Do. 5.5.-

George Malcolm Esq., Merchant, Dundee 5.5.-

John Croall Esq., Middlefield House, Leith Walk 5.-.-

And as Annual Members—

The Honble. Lord Ormidale £-.10.6

The Honble. Lord Deas -.10.6

Revd.

6th May 1865 –

Revd. Dr. Goold	£ – 10 . –
William E. Baxter Esq., M. P.	– . 10 . 6
F. L. Scrymgeour Wedderburn Esq. of Wedderburn and Birkhill	1 . 1 . –
George Gilroy Esq., Merchant, Dundee	1 . 1 . –
James Walker Esq., Do. , Do.	1 . 1 . –
William Lockhart Gibson Esq., M. D., Do.	– . 10 . 6
George Ramsay Esq., Manager of the Scottish Union Insurance Co.	– . 10 . 6
James Greenhill Esq., Manager, Clydesdale Bank, Edinburgh	– . 10 . 6
James R. Dymock Esq., Merchant, Edin.	1 . 1 . –
Robert L. Dymock Esq., Procurator Fiscal, Do.	1 . 1 . –
Archibald Gibson Esq., Secretary of the Caledonian Railway Co., Glasgow	– . 10 . 6
Peter Bruce Esq., St. Bernard's Cottage, Edin.	– . 10 . –
Alexander Dickson Esq., Hermiston	1 . – . –
Charles S. Dods Esq., Haddington	– . 10 . –
William Scott Esq., Teinpendean, Jedburgh	– . 10 . –
James Bartholomew Esq., Huntarrie, Musselburgh	– . 10 . –
John Crombie Esq., Lauriston Place, Edin.	– . 10 . –

Special thanks were directed to be expressed to Mr. Olaus G. Miller of Ratho, Dundee, for his so kind and so successful recommendation of the Society to Gentlemen resident in Dundee and neighbourhood.

The Committee reported that the Room now offered by the Directors of the Philosophical Institution was very eligible for the Council's accommodation, and they were empowered to arrange accordingly, provided Entry could be had, to the exclusive use of the Room, on or prior to 28th inst. In the event of this arrangement being made, an Offer by Mr. Gibson to become the Society's

Society's Subtenant of the Rooms in Charlotte Street, at a Rent of Twelve pounds, which was submitted to the Meeting, would be accepted.

The Treasurer stated that a communication had been received from the Treasury, to the effect that the Council's request for a change in the accommodation proposed to be allocated, for the use of the Society, in the New Post Office Buildings, would be taken under consideration when the final disposal of the accommodation in these Buildings was considered.

The desirableness of Faro for a Station for the Society was brought before the Meeting, and Mr. Buchan was instructed to make inquiry on the subject.

A Paper on Meteorological Observations made at Dunedin, New Zealand, presented through Professor Balfour, was laid on the table.

Mr. Buchan laid on the table two Letters which he had received from Mr. Christopher Kerr, Dundee, intimating that all the arrangements in connection with a Station at Dundee had been satisfactorily completed, and on the suggestion of Mr. Stephens, the cordial thanks of the Council were directed to be conveyed, by Mr. Buchan, to the Directors of the Eastern Necropolis of Dundee, and to Mr. Kerr personally.

The following Annual Members of the Society were, on their application, elected Life Members of it, in terms of the Laws, viz.

John Stewart Hepburn Esq. of Colquhalzie.
The Right Honble Lord Polwarth.
Sir Edward Colebrooke, Bart.
W. F. Bryson Esq., Cullen House.
John Cox Esq., Gorgie.

Meeting of Council, held in the Society's Chambers, 4 Queen Street, on 20th June 1865, at 3 P.M.

Present – Mr Milne Home – in the Chair –
Mr Stephens –
Dr Jackson, who stated that Dr Christison, at present in London, had requested him to apologize for his absence – Mr Stevenson, and Dr Johnston, had also requested Mr Buchan to apologize for their absence –
The Secretary –
The Treasurer.

The Minutes of last Meeting of Council, held on 8th ulto., were read, and found correct –

The Chairman stated that, as mentioned in the Billets calling the Meeting, he had convened the Council for considering –

1. The Business to be brought before the approaching Halfyearly General Meeting of the Society –
2. What should form the Contents of next No. of the Journal.
3. The Election of Parties who had intimated a desire to be admitted to the Membership of the Society since last Meeting.

The Chairman reported that an Answer had been received from the Secretary of the Board of Trade, acknowledging receipt of the Resolution which had been adopted at last Meeting of this Council, and mentioning that the Board had communicated the Resolution to Mr Fitzroy, who had expressed his gratification on receipt of it.

The necessary arrangements were made for the

21st June 1865.

the approaching General Meeting, which, it was agreed, should be held in the Hall, No. 5 St. Andrew Square, on Wednesday, 5th proxt., unless it should turn out to be necessary to change the Day. The Chairman kindly agreed to address the General Meeting, on the Diagrams exhibited to this Meeting, shewing the Daily Elements throughout the Year 1864, in London, at an Elevation of 95 feet above Sea level, and at Marsh Hall, Edinburgh, 270 feet above Sea level.

Letters from the Marquis of Tweeddale were read, relative to the establishing of Stations in Ireland. Consideration of the subject was deferred till next Meeting of Council.

The Chairman submitted, in Dft., a communication to the Commissioners of Northern Light: Houses with a view to obtaining Extracts from the Returns made to them by their Light House Keepers, in so far as these related to the subject of Storms, and to obtaining complete Meteorological Returns from three of the Light Houses, mentioned in the communication. The Treasurer was directed to have it written out, and transmitted to the Commissioners.

The Treasurer mentioned the following as the Names of the Parties who had intimated their wish for Election to the Membership of the Society, since last Meeting, Viz.t.

As Life Members.

George Armitstead Esq., Errol Park, Errol	£5. 5. –
James Paterson Esq. of Kinnettles, Dundee	5. 5. –
William G. Don Esq., St. Margarets, Broughty Ferry	5. 5. –
Thomas Smith Esq., Merchant, Dundee	5. 5. –
John Cowan Esq. of Beeslack	5. – –

of 5

21st June 1865.

Of these Gentlemen the first four are proposed by Mr. Miller of Ratho, who has already been so kind a friend of the Society.

And as Annual Members.

Sir David Brewster, Principal of the University of Edinburgh	£1.–.–
William Cox Esq., Merchant, Dundee (also proposed by Mr. Miller of Ratho)	1.1.–
Mr. John Ballantyne Junr., Dalkeith	..10.–
— William Hope, Corn Merchant, King's Stables	..10.–
James Wright Esq., Secretary, Royal Bank of Scotland	..10.6
William Spence Esq., Secretary, British Linen Co.	..10.6
James Watson Esq., Manager, Scottish Provident Life Assurance Society	..10.6
Gilbert L. Finlay Esq., Manager, Edinburgh Life Assurance Coy.	..10.6
William Dickson Esq., Secretary, Do. Do.	..10.6
John Geddes Esq., Mining Engineer, Edinr.	..10.6
Henry Graham Lawson Esq., 35 George Square	1.1.–
Mr. Walter Elliot, Galashiels	..10.–
— Bryden Monteath, Liberton Tower Mains	..10.–
James Macdonald Esq., Writer, Dunfermline	1.1.–
Mr. Robert Hardie, Kelso	..10.–
— William Gray, Southfield, Duddingston	..10.–
John C. Hay Esq., Architect, and C.E., Edinr.	1.1.–
J. McNaughton Esq., Corn &c. Merchant, King's Stables	1.–.–
Mr. William Main, Seedsman, Kelso	..10.–
William W. Gibson Esq., Bonnington House	1.1.–
Douglas Murray Esq., Langhester	1.10.–
Mr. Robert Jack, Westcraigs, Corstorphine	..10.–
— John S. E. Scott, Buckholm, Galashiels	..10.–
— George W. Muir, Caberston, Innerleithen	..10.–
— William &	

21st June 1865.

Mr. William Purves, Burnfoot, Marchbattle	£ -. 10. -
William Scott Inr. Esq., The Green, Wishaw	1. -. -
Alexander Tod Esq., St. Mary's Mount, Peebles	1. 1. -
Adam Stirling Esq. of Craigs, Dalbeattie	-. 10. -
William Fraquair Esq., W.S.	-. 10. 6
David Curror Esq. of Wester Craigduckie, S.S.C.	-. 10. 6
Mr. John Thynne, 21 Dundas Street	-. 10. -
— Thomas Ovens, Galashiels	-. 10. 6
Adam Rolland Esq., 28 Atholl Crescent	-. 10. 6
Charles Jenner Esq., Prince's Street	1. 1. -
John Russel Esq., 4 Baxter's Place	1. 1. -
John Beaton Bell Esq. of Glenfarg, W.S.	-. 10. 6
Charles McGibbon Esq., Architect, Edin.	-. 10. 6
Alexander Mitchell Esq., Dalkeith	-. 10. -

On the motion of the Chairman, Each was elected a Member, in terms of the Rules.

^Duncan, on the part of Dr. Johnston, Mr. Johnston submitted a Letter, dated 10th ulto., which ^he had received from Sir David Brewster, mentioning his desire to join the Society, and adding, "I sent lately to the Royal Society, as being their "property, a great number of valuable Meteoro:logical Registers established by me, when Secretary "to the Society, in different parts of Scotland. "I think the Society might either give them to "the Meteorological Society, or lend them for "examination." Cordial thanks to Sir David for his kindness in making this suggestion were expressed, and directions were given for the subject's being brought under the notice of the Royal Society.

The Chairman directed attention to the Essays which had been lodged, last year, in competition for the Prize offered by The Marquis of Tweeddale, for the best explanation of the Popular Weather Prognostics collected by Dr. Mitchell, and he laid

laid on the table an expression of his opinion, which had been concurred in by the other Members of Council to whom the Essays had been referred, on the merits of those Essays which he thought the best deserving of the prize.

Dr. Jackson laid on the table a Report from the Medico-Climatological Committee, along with brief accounts, from four of his Correspondents, of the Climate of their respective localities, and it was agreed that they should appear in the next No. of the Journal.

The Chairman, seconded by Mr. Stephens, proposed the following expression of thanks. "The "Council, on now receiving from the Treasurer "a list of so many new Members, consider it "due to Mr. Gibson to record in the Minutes their "high satisfaction with the manner in which he "has laboured in the interests of the Society, as "they believe that they are to a great extent indebted to him for the large accession of new "Names which, within a comparatively recent period "have been added to the Membership." This motion was agreed to; and the Treasurer expressed his great gratification that his very humble efforts in behalf of so useful and important a Society should be approved by the Council.

As it was expected that Dr. Johnston, the Society's Auditor, would be so engaged otherwise as to make his Auditing of the Treasurer's Accounts scarcely within his power prior to the approaching General Meeting, the Chairman and Mr. Stephens kindly undertook to discharge this duty.

Meeting of Council in No. 5 St. Andrew Square, on 5 July 1865, at 2 P.M.—

Present: Mr. Milne Home — in the Chair —
Admiral Ramsay —
Dr. Jackson —
Dr. Johnston —
Mr. Smith —
Mr. Stephens —
The Secretary —
The Treasurer —

The Minutes of last Meeting of Council, held on 21st. ulto., were read, and found correct —

The subject of Stations in Ireland was again brought forward, as was, also, that of a Station in the Faroe Isles, when the Chairman undertook to communicate with the Marquis of Tweeddale, as to both —

It was agreed that the consideration of the Memorial to the Commissioners of Northern Light: Houses should be deferred till next Meeting of Council —

The Chairman submitted to the Meeting the Report which he had prepared for the Half Yearly General Meeting about to be held, and it was approved and adopted —

SCOTTISH METEOROLOGICAL REPORT.

From Scotsman of 6 July 18[illegible]

THE half-yearly general meeting of the Scottish Meteorological Society was held in the Religious Institution Rooms, St Andrew Square, yesterday afternoon. In the absence of the Marquis of Tweeddale, Admiral Ramsay occupied the chair.

The SECRETARY read the following report by the Council:—

"1. The number of the Society's stations, both in Scotland and abroad, from which monthly returns are regularly received, is about the same as formerly reported; and the Council are happy to be able to state that these returns continue to indicate an increasing amount of accuracy on the part of the observers, and of punctuality in transmission to the Society's office.

"The Council are now turning their attention to the possibility of obtaining regular returns from more places on the west coast of Scotland, and even from a few places beyond our own island. The value of such returns has been forcibly shown by an important investigation which was lately made by the meteorological officer of the Society into the progress and origin of the great storms of wind which frequently pass over this country, and which occasionally do so much damage to ships on sea and to crops on land. The report which Mr Buchan drew up upon the storms of November and December 1863 was read a few months ago, before the Royal Society of Edinburgh, and was so much appreciated by the Council of that Society that they have resolved to publish it in their Transactions. An abstract of the paper appears in the last number of our own Meteorological Journal. Mr Buchan's investigations establish that, out of twenty-three storms of wind which passed over this country, all, with one exception, came from a westerly direction. Hence the great importance of obtaining stations to the westward, to ascertain the condition of the atmosphere there, and still more to obtain the means of giving warning of the approach of storms.

"The Council have, with a view to the object now explained, applied to the Commissioners of Northern Lights to be permitted to receive meteorological returns from a few of the lighthouses under their charge, situated in or near the Irish Channel; and they are also in hopes of being able to obtain returns of the same nature from one or two points on the West and North Coasts of Ireland. They are also endeavouring, in concert with the Danish Government, to get meteorological returns from the Island of Faroe.

"2. It will be remembered that the Council were enabled by the generosity of our President to offer a prize of £21 for the best essay explaining, on scientific principles, the popular prognostics of the weather, collected by Dr Arthur Mitchell, a member of the Council of the Society. The Council received essays from seven competitors, several of which were so good and so nearly equal in merit, that they have had some difficulty in fixing on the one which should receive the prize. They have at length decided on preferring the essay by Mr Thomas Dobson, B.A., Grammar School, Hexham. At the same time, the Council desires to refer in terms of much commendation to the essays sent to them by Mr Abercrombie, London, and the Rev. C. Clouston, Sandwick.

"3. The Council are happy to be able to announce that apartments have been assigned to the Society by Her Majesty's Treasury, as an office for holding their records and instruments, and conducting the Society's business in the building, the lower part of which is to be occupied by the new Post Office, opposite to the Register Office. The Council, understanding that these buildings would probably be completed and made ready for occupation in October, did not deem it necessary to retake for another year the rooms hitherto occupied by the Society in St Andrew Square. They at the same time received a communication from the directors of the Edinburgh Philosophical Institution, offering to them the use of one of their rooms during the summer and autumn months without charge. The Council were very much gratified to receive this mark of courtesy and consideration, and they most heartily accept it, at the same time expressing their thanks to the directors of the Philosophical Institution. The office of this Society will therefore be held at No. 4 Queen Street, until the apartments in the new Post Office buildings are ready for them.

"4. The Council, in consequence of the death of Rear-Admiral Fitzroy, considered it right to record their sense of the services which he had rendered to meteorology, and at the same time to express a hope that Her Majesty's Government would see fit to continue the department over which the Admiral had so ably presided. A copy of this resolution had been transmitted to the Board of Trade, and another copy to the widow of Admiral Fitzroy. Receipt had been acknowledged, along with an expression of Mrs Fitzroy's gratification through the receipt of it.

"5. The Council being required by the laws to present at this half-yearly meeting an abstract of receipts and expenditure during the last year, now present this abstract, which has been prepared by Mr Gibson, their honorary treasurer, and was examined, with the vouchers thereof, by two members of the Council, and found correct.

"The Council are happy to say that during the last half-year 104 new members have joined the Society; and if these gratifying marks of public confidence and support are continued the Council will have the means of carrying out the objects of the Society on a more efficient and extended scale than hitherto."

Mr RALEIGH moved the adoption of the report, which was seconded by Mr Little, Carlesgill, and unanimously adopted.

Mr MILNE HOME, of Wedderburn, addressed to the meeting some observations on the weather of 1864. He stated that having been informed that a diagram had been published in London showing the meteorological features of the year 1864 for London, he thought that a similar diagram for Edinburgh would be interesting; and accordingly Mr Buchan had, at his request, prepared a diagram of Edinburgh, bringing out the same meteorological features as had been shown in the London diagram, which he now had the pleasure of presenting to the Society.

Meeting of Council, in the Society's Chambers, 4 Queen Street, on 5th October 1865.

Present, Mr Milne Home - in the Chair
Mr Stephens -
Dr Johnston -
Mr Stevenson -
Captn Thomas -
Dr Mitchell -
Mr McLaren -
Dr Jackson -
The Secretary -
The Treasurer -

The Minutes of last Meeting, held on 5th July last, were read, and found correct.

The Chairman reported that he had been in communication with The Marquis of Tweeddale as to Stations in Ireland, and the result of that communication - Dr Johnston also reported a communication he had received from The Marquis, and the Meeting was gratified by the prospect that appeared of Stations being established in Ireland -

The Chairman reported what he had done as to a Station on the Faroe Isles; and he agreed to continue his attention to this subject, with, he had reason to hope, a successfull result -

The Chairman said that before proceeding to refer to the different matters mentioned in the billets, he had a communication to make to the Council of a peculiarly gratifying nature - The Marquis of Tweeddale, the Noble President of the Society, having fully participated in the regret felt by the Members of the Council

that the Society's funds should have exhibited their recent unfavorable position, had, in addition to all his former benefactions to the Society, sent to the Treasurer, through Dr Keith Johnston, the munificent Sum of Fifty Seven pounds, which fully covered the amount the Society had expended in advertising the prizes so generously offered by His Lordship for Essays on subjects vitally connected with the Society's success in its promotion of practical Science; and the Chairman proposed that the heartiest thanks of the Council should be tendered to His Lordship for this addition to all the other benefits he had already, with so much intelligent discrimination conferred on the Society -

The proposal of the Chairman was most cordially adopted by the Meeting, and he was requested to communicate to His Lordship the heartiest thanks of the Council accordingly - This he kindly undertook to do - It was mentioned that Letters of thanks, on behalf of the Council, had already been addressed to His Lordship by Dr Johnston and the Treasurer.

It was agreed that the following should form the Contents of the outcoming No of the Quarterly Journal, viz -

Paper on Sea Temperature, and density of Sea Water -
Rainfall at Haddington for 30 Years ending 1864 -
Notice of a remarkable Solar Rainbow - by Captain Thomas, R.N. -
also, if there should be space, a table of Rainfall at Carbeth & Guthrie, for Years ending 1859.

5th October 1865.

Mr. Buchan read a Report of his visits to the following Stations of the Society, during the present Autumn.

viz. — Dundee - two Stations -
— Cardross -
— Auchendrane -
— Inveresk -
— Dalkeith -
— Aberdour -
— Burntisland -
— Thurston -
— East Linton -
— Smeaton -
— North Esk Reservoir -

The Report was considered very satisfactory, and Mr. Buchan was thanked for it - and it was agreed that he should continue his visits to the Stations as frequently as his other duties might admit of -
Dr. Mitchell reported his having also visited the Stations at Bressay, East Yell, Kirkwall, and Sandwick, and had found all in a very satisfactory State - Thanks were returned to Dr. Mitchell also -

Thanks were voted to Professor Piazzi Smyth, for a valuable Letter, dated 29 July last, addressed by him to Mr. Buchan, relative to certain returns from Observers of the Society, and the Treasurer was commiss to Communicate these thanks to the Professor -

Dr. Johnston submitted a letter from Dr. Chaplin the Society's Observer at Jerusalem, dated 14 Aug. last, as to the Instruments at his station, and Dr. Johnston undertook to communicate with Dr. Chaplin on the subject -

Dr. Johnston mentioned that he had had a communication from Mr. Sandwith of Haifa, as to a Station there, which promised to be a very important Station for Observations for the Society, and Dr. Johnston undertook to continue correspondence on the subject -

The Treasurer was directed to have the Memorial to The Commissioners for Northern Lights written out, and signed by Dr. Johnston, as the Society's Honorary Secretary, and presented to The Commissioners -

The Meeting agreed to accept an offer from the Directors of the Philosophical Institution, of the use of the room immediately underneath the one at present in use, the latter being required by the Directors for other purposes -

The subject for investigation by Mr. Buchan, it was agreed, should be the peculiar characteristics of season 1865 - ~~and~~ Mr. Buchan was directed to correspond with Mr. Dobson, the successful competitor for The Marquis of Tweeddale's Prize for Essays on Prognostics, as to what Mr. Dobson's views on the subject of giving publicity to the to the Essay.

Dr. Mitchell mentioned that the Observer at East Yell, Mr. Matthewson, would be much the better for a Box for his Instruments, and it was agreed that he should have a Box formerly returned from Iona

The Treasurer said that it gave him great pleasure to mention that chiefly through the Donation from The Marquis of Tweeddale, as already mentioned the whole obligations of the Society, up to the date of the last

Half yearly General Meeting (5th July last) had been liquidated, and that a Balance remained on hand toward meeting the Expenditure of the Year now current - thus

In Union Bank at 5 July 1865	£51.14.7
— Treasurer's hands at — Do.	10.6.6½
	£62.1.1½
Donation received from The Marquis of Tweeddale	57.–.–
	£119.1.1½
Due to Messrs Murray & Gibb, Printers, at 5 July 1865 £76.8.8	
— to Messrs W. & A.K. Johnston at Do. 21.19.1	98.7.9
Balance of Funds	£20.13.4½
And, estimating the outstanding Arrears (subject however to deduction of whatever may be the per Centages due to the Meteorological Secretary and the Treasurer) at, say	74.6.7½
The Amount of Assets may be held to be about	£95.–.–

The Treasurer was directed to use all due means (by Circular or otherwise) preventing Arrears of Subscriptions from accumulating.

He reported that since last Admission of Members, the following Gentlemen had offered themselves for Election to the Membership of the Society - vizt —

As Life Members -

J. G. C. Hamilton Esq., of Dalzell	£5.–.–
J. L. Campbell Esq., of Achalader	5.–.–
J. G. Rose Innes Esq., of Netherdale	5.–.–

and as Annual Members -

The Right Hon. Duncan McNeill, Lord President of The Court of Session	£1.1.–
Thomas Graeme Murray Esq., W.S.,	1.1.–

John Drybrough Esq., Brewer	£–.10.6
Mr. James Middlemas	–.10.6
Archibald Craig	1.1.–
William Tait, Apothecary (of Messrs. Duncan	–.[illegible].
Flockhart & Co.)	1.10.–
W. J. Ford, Hope Crescent	1.1.–
W. Christie, 16 George Street	1.1.–
James Cowan, Royal Terrace	–1.1[illegible]
Charles Maclaren Esq., Moreland Cottage	–.10.6
William Ivory Esq., W.S.,	1.10.6
George Young Esq., Solicitor General	1.1.–
General Lang, Langhouse, Greenock	1.–.–
Robert Blair Esq., Ingleston, Greenock	1.1.–
James Morton Esq., Greenock	–1.1[illegible]
H. L. Tennent Esq., Sheriff Substitute, Do.	1.10.6
James Craig Esq., Murrayfield	1.1.–
James W. Alston Esq., of Stockbriggs, Lesmahagow	–1.10.–
Rev. Robert Home, Glencairn	1.10.–
Dr. George Keith, Edinburgh	1.1.–

Each of these Gentlemen was, on the motion of the Chairman, elected a Member of the Society in terms of the Laws.

Meeting of Council, in the Society's Chambers
No. 4 Queen Street, on 14th December 1865, at 2 p.m.

Present - The Most Noble The Marquis of Tweeddale - in the Chair.
Mr. Milne Home -
Mr. Stephens -
Mr. Smith -
Dr. Johnston -
Mr. Stevenson -
Mr. Cunningham -
Dr. Mitchell -
Mr. Sanderson -
Captain Thomas -
Dr. Jackson -
The Secretary -
The Treasurer -

The Minutes of last Meeting, held on 5th October last were read, and adjusted -

The Treasurer reported the following parties as having intimated a wish for admission as Members, since last Meeting -

As Life Members -

George Adinston McLaren Esq.,	1 Cassels' Place -	£ 5. - -
James Falshaw Esq.,	Castle Street -	10. - -
Andrew Smith Esq.,	Willowbrae House, Jock's Lodge -	5. - -
George Alston Esq.,	Craighead, Hamilton	5. - -
Major Balfour,	of Fernie Castle, Letham	5. 5. -
Archibald Orr Ewing Esq.,	Glasgow	5. - -

As Annual Members -

William Renton Esq.,	Princes Street -	£ 1. - -
Robert Hume Esq.,	49 Grange Road	1. 1. -

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George E. Russell Esq., 14 Regent Terrace	£ - .10.6
Mr. John R. Finlay, 9 Dundas Street	- .10.6
Donald R. Macgregor Esq., Merchant, Leith	1.1.-
John Gillon Esq., Do. Do.	1.1.-
John Warrack Esq., Do. Do.	1.1.-
Mr. John Harper, 21 Leopold Place	- .10.6
Henry Beveridge Esq., National Bank, Kirkcaldy	1.-.-
Robert Douglas Esq., Dunnikier Foundry	1.-.-
Admiral Sir Wm. J. Hope Johnstone K.C.B.	1.1.-
W. J. Marshall Esq., M.D., Greenock	- .10.-
Patrick Anderson Esq., Merchant, Dundee	1.-.-
Rev. James Simpson, Dysart	1.-.-
George Meldrum Esq., C.E., 53 York Place	- .10.-
Alexander Trotter Esq., 59 George Street	- .10.-
A. Dunlop Anderson Esq., M.D., Glasgow	- .10.-
Robert Bellingal Esq., Bridgend, Islay	- .10.-
James William Baillie Esq., of Culteralers	- .10.6
George Baird Esq., of Strichen	3.-.-
Rev. George Johnston, D.D., Edinburgh	- .10.-
Henry Bruce Esq., Kinleith, Currie	1.-.-
John Blackie Junr. Esq., Lord Provost of Glasgow	1.-.-
John Begg Esq., Distiller, Balmoral	- .10.-
Rev. John Smith, Ecclesmachan, Linlithgow	- .10.-
Thomas Russell Esq., 3 Middleby Street	- .10.-
The Right Hon. Wm. Chambers of Glenormiston, Lord Provost of Edinburgh	1.1.-
James Brown Esq., of Lochton, Inchture	1.-.-
Robert Bell Esq., of Lunna, Falkirk	- .10.-
Alexander Begbie Esq., Barneyhill, Dunbar	- .10.-
Duncan Smith Esq., of Messrs. Chas. Tennent & Coy., Glasgow	1.-.-
James Burnet Esq., Craigielaw, Drem	1.-.-
James Anderson Esq., Newbigging, Dundee	- .10.-

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Right Rev. Robert Eden, Bishop of Moray & Primus £1.1.–
Andrew Aitken Esq., 7 Hermitage Place, Leith –.10.6
Thomas Dishington Esq., Merchant, Leith 1.1.–
George H. Geddes Esq., Mining Engineer –.10.6
David Callander Esq., Merchant, Leith 1.–.–
John Adams Junr. Esq., Depute Clerk of Session –.10.6
John Gray McKendrick Esq. M.D., Belford Hospital Fort William –.10.–
J. S. Hay Newton Esq., of Newton
John Stoddart Esq., L.R.C.P., Kirkcaldy –.10.–

Each of these Gentlemen was unanimously elected a Member of the Society in terms of the Laws.

Mr. Milne Home, reported that, as requested at last Meeting, he had written to The Marquis of Tweeddale conveying the thanks of the Council, for His Lordship's munificent gift to the Funds, of the Society. He also reported his continued attention to the subject of a Station in the Faroe Isles, mentioned at last Meeting. The Noble Chairman also stated that he continued in correspondence with General Bulow on the same subject. Mr. Milne Home further mentioned his continued attention to the proposal of a Station in Iceland; and Mr. Smith told the Meeting that he thought that through a friend of his, a Merchant in Stykkisholm, in the southern part of that Island, and who had for a series of Years been taking observations there, access might be had to these observations which had been forwarded to the Danish Government, at Copenhagen, as opportunity offered. The Noble Chairman, Mr. Milne Home, & Mr. Smith agreed to co-operate towards the desired access to these observations being had, it being considered that Returns from Iceland as well as from the Faroe

Isles, would be of great value in the investigation of European Storms, and other matters of general Meteoro:logical interest.

The Secretary read a Report of a visit he had paid to the Society's Stations at Drumlanrig, Dalkeith, Bowhill, and Dumfries, with a view to discover certain in the Returns from these Stations. The Report entered minutely into the condition of each Station, and detailed the changes which were considered desirable at each. He also reported that he had found the utmost readiness to attend to his suggestions, and the changes which he had recommended had been already adopted. The Meeting resolved that it be reported to His Grace The Duke of Buccleuch and to Dr. Gilchrist of The Crichton Institution, Dumfries, that all the Instruments at the above mentioned Stations, are now in entire accordance with the Standard Instruments at the Society's Office in Edinburgh. Mr. Milne Home undertook to communicate to his Grace accordingly.

The Secretary called the attention of the Council to the necessity of having in the Office, for his own use, and for the use of the members of the Society, M. Le Verrier's Daily Meteorological Publication "Bulletin International" in which the state of the weather over Europe each morning is given. His request was willingly granted.

Mr. Buchan reported that offers had been made for the Establishment of Stations at Islay, at the High School of Inverness, and at the Manse of Glencairn, and he recommended the Councils ac:ceptance of these offers, as he considered the places named eligable for Stations. The Offers were accepted

in terms of the Laws of the Society. It was under:
:stood that the Pupils in the High School of Inverness would receive instruction in Meteorology.

Mr Buchan was directed to adhere to the instructions formerly given as to the Station at Burntisland.

It was resolved that in cases where Thermometers, or other Instruments, happened to be broken in the course of their examination by Mr Buchan, whether they belonged to Members of the Society or to Opticians or other Parties not Members, the expence of repairing them must be borne by party to whom they belong. Also that a charge ought to be made, in every case, for the testing of Instruments except to Members of the Society.

On the suggestion of Mr Stevenson, Mr Buchan was instructed to prepare a Note of suggestions to the Society's Observers, to be inserted in next No of the Journal. And he was requested to see in so far as he might have an opportunity of doing so that Opticians, Work:
:men, and others, when taking Instruments to the Country, should carry an aneroid with them.

Dr Johnston reported that he had heard from the Observer at Jerusalem that the Instruments at that Station were all now in due condition. further, that he (Dr Johnston) had to inform the Council, that Mr Sandwith, of Haifa, who had kindly agreed to take Observations at that place was about to leave it, for Cyprus, but he had offered to take, and report Obser:
:vations at Cyprus. The offer was gladly accepted and thanks were given to Dr Johnston.

It was directed that a Copy of Mr Buchan's paper read before The Royal Society here should be sent to The Board of Trade; and that the remaining Copies men:
:tioned by Mr Buchan as for disposal should be distributed, as from the Council, as p a list approved by this Meeting.

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Mr. Milne Home mentioned that he feared the Apartments in the New Post Office Buildings which had been assigned to the Society might not be ready for occupation before March or April next.

The Treasurer stated that he had opened an Account with The Union Bank of Scotland for receiving the Subscriptions of Life Members of the Society, which was approved.

In the view of the Half Yearly General Meeting of the Society, which falls to fill up the vacancies, created by the retirement, in rotation, of three Members of the Council, in terms of the rules of the Society, the Council then took under consideration the vacancies likely to occur, when it was thought that the three following Members of the Council, who had had it in their power to give only very partial attendance at the Meetings of Council, might be willing to be relieved of their duties as Members of it – viz., Mr. Primrose, Professor Christison, and Mr. Elliot, and the Treasurer was directed to ascertain from them whether it ~~were~~ was so; and in the event of his finding that it was, he was instructed to communicate as to their willingness to join the Council, with Sir Thomas Buchan Hepburn, Admiral Sir William James Hope Johnstone, and Professor Balfour, each of whom it was thought would form a very eligible Member of the Council – as would, also, Captain Thomas, R.N., to be communicated with in the event of these three Gentlemen declining to be put in nomination.

16th January 1866.

Meeting of Council, in Dr. Johnston's Chambers, on 16th January 1866, at 4 p.M., in terms of the Billets issued -

Present. Mr. Milne Home - in the Chair.
Admiral Ramsay.
Mr. Cunningham.
Dr. Johnston.
Dr. Jackson.
Mr. Smith.
Mr. Stephens.
Mr. Hope.
The Secretary.
The Treasurer.

The absence of The Marquis of Tweeddale and of Mr. Sanderson was apologized for through Dr. Johnston.

The Minutes of last Meeting held on 14th Ult. were read and found correct.

The Chairman explained his reasons, for calling this Meeting, and at this hour, and in this place.

The Meeting authorized the insertion of the following Returns and Reports in the forthcoming No of the Society's Journal viz:

I. Report on the Meteorological peculiarities of the last Summer.
2. Hints to Observers regarding Instruments.
3. Supplement to the "Weather Prognostics" collected by Dr. A. Mitchell.

It was agreed on the recommendation of the Meteorological Secretary, to accept of Monthly Returns of Observations, from the following New Stations. Belford Hospital, near Fort William - Helensburgh, Dumbartonshire - Cairndow, Argyleshire - Olrig, Caithnessshire - Stockbriggs, Lanarkshire - High School, Inverness - Glencairn, Dumfriesshire - Callabus House, Argyleshire and Silloth in the County of Cumberland.

The Meteorological Secretary reported that the Observations

from Taymouth had been, for sometime, unsatisfactory and that there was no prospect of any improvement. He therefore recommended that the Returns from that Station should not be in future sent to the Astronomer Royal, and that the Returns from two new Stations should be sent to him, viz:- Callabus House in the Island of Islay, and Cairndow both in Argyleshire.

Dr. Johnston had written to Mr. Sandwith intimating the Council's acceptance of his offer to take, and report Observations at Cyprus.

Thanks were voted to the Noble President, and to the following Members of the Society, for the undermentioned Works presented by them to the Society, viz:-

To The Marquis of Tweeddale for-

"Notes on the Meterology of Ireland, by The Rev. Humphrey "Lloyd, D.D., &c., 1854."

"The Climate of Ireland, and the Currents of The Atlantic" "also by Dr. Lloyd.

"Observations Meterologiques faites a Nigne Taguilsk, Monts "Ourals- 1864."

To Dr. Nachot- for "The Isis- Dresden."

G. V. Vernon Esq., for Weekly Returns of The Health and "Meteorology of Manchester, Nos. 270 to 285."

To Dr. Arthur Mitchell- for "Cycloses, an explanation of their "Origin, Relation, and progression, by Donald Macgregor, R.N.R.,

also to-

The Board of Trade- for the fourteenth No. of Meterological Papers "published by authority of the Board of Trade."

The Meteorological Society of England- for Proceedings of the Meterological Society of England, Vol. II. No. 20"

The Register General for the Weekly, Monthly, and Quarterly "Reports of the Register General of Births, Deaths, and "Marriages for Scotland."

The following Gentlemen were, on the motion of the Chairman, unanimously elected Members of the Society, in terms of the Society's

rules viz:-

As Life Members –

James Caird Esq., of Cassencarie, London.	£ 5. – . –
James Bryson Esq., Optician, Edinburgh	5. – . –

As Annual Members –

Archibald D. Cockburn Esq., 6 Atholl Crescent	£ 1. 1. –
George Galloway Esq., Chemist, Inverness.	– . 10. –
James H. Calder Esq., Swinton hill	– . 10. –
Francis Calder Esq., Yetholm Mains	1. – . –
George Burnett Esq., Merchant, Dundee	– . 10. –
Hon. Ralph Abercromby, London	– . 10. –
Thomas Chalmers Esq., of Longcroft, Linlithgow.	1. 1. –
David Chalmers Esq., of Kate's Mill, Slateford	1. 1. –
James Cameron Esq., Balnakyle	– . 10. –

It was directed that a Meeting of the Council should be called for half past Eleven O'clock, on the 24th, in No. 5 St. Andrew Square – for consideration of the Report to be submitted to the General Meeting of the Society to be held at 12 on that day – &c. –

An Advertisement of the General Meeting was adjusted, and the Treasurer was directed to send a Slip of it to every Member of the Society, resident within the three Lothians, or in Fife.

Meeting of Council in No 5 St. Andrew Square, on 24th January 1866, at Half-past 12 P.M.

Present.
The Most Noble The Marquis of Tweeddale - in the Chair.
Mr Milne Home -
Mr Stephens -
Mr Cunningham -
Mr Sanderson -
Admiral Ramsay -
Dr Johnston -
Dr Mitchell -
Mr Smith -
Mr Hope -
The Secretary -
The Treasurer -

Mr Milne Home submitted to the Meeting a Report from the Council of the Half Yearly General Meeting of the Society, about to be held, which he had prepared, it was approved, and adopted.

The Treasurer having reported that Mr Primrose, Professor Christison, and Mr Elliot, had each, expressed his willingness to retire from the Council, and that Sir Thomas Buchan Hepburn had written to him that his other engagements would prevent its being in his power to attend the Meetings of the Council, it was agreed that Admiral Sir William James Hope Johnstone, K.C.B., Professor Balfour, and Captain Thomas R.N., each of whom had expressed his willingness to act, if chosen, should be proposed to the General Meeting for election to fill up the vacancies occurring in the Council at this time -

SCOTTISH METEOROLOGICAL SOCIETY.

From Daily Review of 25 Jan 1866

The half-yearly general meeting of the Scottish Meteorological Society was held yesterday, in the Hall, No. 5 St Andrew Square. The Most Noble the Marquis of Tweeddale, president of the society, occupied the chair, and among the gentlemen present were—Mr D. Milne Home of Wedderburn; Dr A. Keith Johnston, the Rev. Dr George Johnston, Dr Arthur Mitchell, Major Hay, Mr Ogilvy of Corrimony; Mr Hope of Fentonbarns; Mr Russell of Pilmuir; Mr Warrack, Leith; Mr R. M. Smith, Mr George Seaton, Mr Buchan, secretary, &c.

Mr MILNE HOME read the following report of the proceedings of the society:—

"Several new stations have been established in connection with the society, whereby returns are now obtained monthly from eighty-one stations in Scotland, instead of seventy-eight, which was the number in June last. This increase arises from eight new stations having been formed, and five old stations discontinued. Most of the new stations are in the west and north of Scotland, from which districts returns were much wanted. The Meteorological Secretary, during the last six months, was able to visit about sixteen of the society's stations; and four others in Orkney and Shetland were visited by Dr Arthur Mitchell, a member of the Council. Much good arises from such visits. To obtain explanations of anomalies, which occasionally appear in the returns, the Council have caused the secretary to draw up a paper, containing suggestions for observers as to the instruments, which will appear in the forthcoming number of the Journal.

"The Council, deeming it important to obtain meteorological returns from the Faroe Isles, and also from Iceland, have, through their President, the Marquis of Tweeddale, entered into a correspondence with the Government of Denmark; and they have every reason to expect that these returns will be sent to the Society's office, the observations being made with instruments supplied at the expense of the Danish Government.

"The Council have great pleasure in mentioning that the funds of the society have again been increased by a very handsome donation from our President, the Marquis of Tweeddale.

"The number of gentlemen who have joined the society during the last six months is 81, so that the total number of the society's annual and life members amounts now to 572.

"The Council have agreed to order, for the use of the secretary and of the members of the society, the daily newspaper, published by M. Le Verrier, of the Paris Observatory, called *Bulletin International*, which is devoted to a representation of the state of the weather every day over Europe, and is shown by a map as well as by figures.

"The Council are happy to be able to announce that apartments in the public buildings connected with the New Post Office have been assigned to the society for the use of the Council, and for the custody of instruments, records, and books, &c. Her Majesty's Treasury, however, stipulate that a rent of £30 be paid for these apartments. The Council regret that any rent should be exacted, but they recommend that it should be agreed to be paid. It is expected that these apartments will be ready for occupation in May.

"The Edinburgh Philosophical Institution have kindly given to the Council the use of a room in their Institution since last May.

"At this period three new members of Council have to be elected in place of those who go out of office. The three who go out are the Hon. B. F. Primrose, Dr Christison, and Mr Elliot of Wolflee. Those recommended to succeed them are Admiral Sir William James Hope Johnstone, K.C.B., Professor Balfour, and Captain Thomas, R.N."

On the motion of Major HAY, seconded by Mr OGILVY of Corrimony, the report was unanimously approved of.

THE LATE ADMIRAL FITZROY.

Mr WARRACK, in calling attention to the vacancy created by the death of Admiral Fitzroy, said, although those connected with maritime commerce did not take so much interest in the meteorological observations of the late Admiral Fitzroy as they might have done, and perhaps, consequently, the benefit resulting from those observations was not so fully appreciated as it might have been, still those who did take an interest in them saw that their tendency was to bring out facts which, when more definitely ascertained, and more systematically arranged, would be attended with most beneficial results; and he would take this opportunity of saying that the loss of Admiral Fitzroy was a very great loss indeed to all engaged in maritime matters. He wished to ask whether the Government had made efficient arrangements for supplying, so far as they could, the office which had been so well occupied by the late Admiral. He (Mr Warrack) believed that many were becoming more and more convinced of the importance of having those investigations thoroughly carried on, and he need not remark that the events which had taken place during the last few weeks must confirm the feeling in all who took an interest in such matters.

Mr R. M. SMITH said that being connected with the shipping interest in Leith, he could testify to the appreciation by shipowners of the benefits derived from the meteorological observations of Admiral Fitzroy, and he cordially concurred in the views stated by Mr Warrack.

The Marquis of TWEEDDALE said he had made inquires privately as to the subject under discussion, and the answer he had received from one who knew what he was writing about was, that the best plan for the society was to petition the Government, showing the absolute necessity there was for such an appointment, and its convenience to the maritime interest. If this was strongly urged upon the Government, it was quite possible the society might have a favourable answer.

Mr MILNE HOME, in supplement of his Lordship's statement, said that the Council had been in official communication with the department lately represented by Admiral Fitzroy, and the letter received by their honorary secretary, Dr Keith Johnston, was signed by Mr Babington, the assistant to the Admiral, by means of whom he (Mr Home) understood the prognostications and weather predictions of storms had been carried on hitherto, and in whom great reliance was placed by Admiral Fitzroy. He (Mr Home) entirely sympathised with the remarks of Mr Warrack, who was the Chairman of the Leith Chamber of Commerce, and therefore represented a considerable interest in the matter, that this very important office should be continued. It ought to be the duty of the Council to send a memorial to Government representing what were the feelings and views of this part of Scotland; and he believed that on this becoming known in Dundee and Glasgow, similar memorials would go up from the Chambers of Commerce there, sympathising with the expressions of the Chamber of Commerce of Leith. There was a separate matter of which he thought it right to take notice. At the present moment, he believed, there was in the archives of Somerset House a very large amount of meteorological information of the most valuable character, which was obtained by the late Admiral Fitzroy. His Lordship, the Chairman, would remember that th origin of the department presided over by the Admira was for the purpose of collecting observations take at sea by the officers of Her Majesty's ships and o merchant vessels; the result of which was the collec tion of an immense *repertoire* of facts, extending ove ten years, and the whole of these were now in Somer set House. Were the Government to appoint proper persons to examine these records and report upo them, he had no doubt very useful and important in formation would be elicited, throwing light upon th great laws regulating the movements of the atmos phere. So far from discontinuing the office held b Admiral Fitzroy, the Government should be dispose to increase the staff of the department with the view of eliciting the information contained in these records.

Dr KEITH JOHNSTON said he believed the reason why the records still lay in the rooms of Somerset House was that the Government had received no encouragement to make use of them.

Ultimately it was resolved that the Council should be requested to prepare a memorial to the Board of Trade carrying out the views above expressed.

THE CHARACTERISTICS OF LAST SUMMER WITH RELATION TO EPIDEMICS.

Mr BUCHAN, the secretary, submitted a report on the peculiar weather characteristics of last summer, with the view of ascertaining their relation, if any, to prevalent diseases. In the outset, Mr Buchan stated he had found that if he confined his attention to Scotland alone, the result of the investigation would not be complete or satisfactory, and that to give at all a proper exposition of the subject, the weather over the whole of Europe must be taken into consideration. He accordingly, after some trouble, procured observations from about sixty places in various parts of Europe, and these observations gave the temperature daily from the 1st April to the 30th September, being the six summer months, when the vegetative processes were in their fullest activity, and which were so remarkable during last season. From these returns he took the weekly average of the temperature at the different stations, and the results were laid down on a series of maps. Referring to these maps—26 in number, each showing the temperature of the respective week, the districts where the temperature was above the average being coloured red, and blue where it was below the average—Mr Buchan observed that a line drawn from the Shetland Isles, by Holland and Montenegro to Candia, denoted the district with an average summer. The greatest excess of heat during these six months had occurred in the districts of Paris and Marseilles, where the temperature was 4 degrees above the average. The north and east of France, Belgium, and the east of Spain, had a temperature 3 degrees above the average, while in the south of England it was scarcely 2 degrees above. With reference to our own country, from the peculiar description of the temperature of last summer, the east coast was not so warm as the west of Great Britain, Scotland had not such a warm summer relatively as England, and both of these countries were less in temperature than Ireland, a little further to the west. The west coast of France, along the Bay of Biscay, had even a lower average than the east of Scotland—two-tenths above the average—but in coming round the coast of the Spanish Peninsula, it rapidly increased, so that these districts were remarkably situated as regards temperature. The coldest district was the north-east of Russia, passing from St Petersburg to Helsingfors and Moscow, where the mean defect of temperature was 5 degrees—an enormous difference. Comparing the summer at Moscow with that at Paris, it would be found that there was a relative difference of 9 deg. between them. In Scotland, during last summer, the mean temperature was 54½ deg., which was the highest since the society began its operations in 1855, but the summers of 1846, 1826, 1796, and 1798, had all been warmer on the average than the six months of last season. Going further south, however, it was found that the summer of Greenwich had absolutely been the warmest on record since 1771. In Paris it had been the warmest since 1806, being 1 deg. warmer than the warmest previous season. Turning to Moscow, it was found on comparing a series of observations beginning in 1841, that during that time there had been no such defect in temperature there as occurred last season. The general effect of the weather during the six months of 1865 had been to divide Europe into two nearly equal portions, the western and the eastern—the western being above the average, and the summer much warmer than usual, while the eastern was much colder than usual. But the contrast did not merely end here; it was as violent as it could pos-

sibly be; for there had been no such cold remarked as had happened in the Moscow district, and no such heat as at Paris. Looking at the tables for past years, it was to be observed that the degree of excess was unusual—the general average being about two-tenths or three-tenths above or below the average—while last summer the variation had been as great as 5 deg. on the one hand and 4 deg. on the other. It was, however, worthy of notice, that when there was an exceptionally warm season at Greenwich or Edinburgh, it was exceptionally cold at Moscow. Again, 1848 was warm in Moscow—3 deg. above the average—Edinburgh was just at the average. In all cases where there was a great warmth during the summer season in England, it was counterbalanced by the opposite extreme in the east of Russia. In considering the effect of such a season on health, Mr Buchan said there occurred six distinct periods of warmth in the British isles, separated from each other by intervals of cold weather. This warm weather never exceeded four weeks at once, and the period of cold weather never to any extent exceeded one week. This frequent transition from warm to cold weather, of comparatively short continuance, was a peculiar characteristic of the weather of the British isles, as compared with other countries. A subject of interest to agriculturists in our country was the temperature during the critical periods of the crops—namely, the middle of July, when they were flowering, and the beginning of August, when the ripening process was going on. Now, during the week ending the 15th July most unfortunately the temperature over Scotland fell below the average about 4 degrees. Such was not the case during the previous week, nor in the succeeding days of that critical period. In the beginning of August the temperature of Scotland was from 4 degrees to 6 degrees below the average. Scotland was thus under peculiar disadvantages as regards agriculture, and though as a whole the season was a remarkably fine, warm season, yet as regards the crops it was scarcely the average. Another consideration regarding the weather of last season, in addition to temperature, was that it was remarkably dry. An observation taken at Bury showed that whereas the mean evaporation for the six months was nearly 10 inches, during last summer the amount of evaporation was fully 20 inches. In June the greatest amount of evaporation occurred, being 5 inches, which was double that of the previous June. This peculiar state of things connected the weather in Scotland last summer with that of the steppes of Russia. It was the nearest approach to the weather of the steppes than any time previously remarked upon. He would not draw any conclusion from that, as they wanted the proper data, but it was the fact. The summer was warmer and drier than any previously known, specially in the earlier part of it. At the society's higher stations, such as Braemar and North Esk reservoir, the weather was very warm, the heat was felt to a much greater extent, and the mean temperature at these high stations was 1 degree higher relatively than any other place in Scotland. This was owing, no doubt, to there being very little vapour in the atmosphere to attract and absorb the sun's rays. Mr Buchan showed a fine specimen of wheat grown near the reservoir, at a height of 900 feet above the sea.

Dr ARTHUR MITCHELL reported as to the connection between the disease of the country and the weather of last summer, but explained that, having received Mr Buchan's report only the previous night, he had not been able to make the investigations necessary to show the immediate relation of the climate and the health of the population. Dr Mitchell then proceeded:—Mr Buchan's admirable inquiry into the peculiarities of the climate of the past year teaches us this main fact—that for six months, from May to October, the west half of Europe was abnormally warm and the east half abnormally cold. The line separating these regions of exceptional heat and of exceptional cold was not a fixed line, but one oscillating irregularly eastward and westward, from week to week. For five short periods it came as far west as to throw our country into a cold region, but for 21 of the 26 weeks we had a temperature which greatly exceeded our average temperature. When we hear of half-yearly mean temperatures 2, 3, 4, and 5 degs. above usual half-yearly mean temperatures, we know at once that we are dealing with climatic disturbances of no trifling extent. But Mr Buchan has told us of departures from the rule far wider than this, for we have heard him speak of weekly and monthly mean temperatures at certain places, or rather in certain districts of Europe, 10, 12, and 14 degs. both above and below the rule for these districts. Derangements of such magnitude and duration cannot occur without influencing in some way or other the health and life of man. They would also certainly affect the health of the lower animals and of vegetables, but I shall confine my remarks to him. A close connection between climate and health has been absolutely proved, and that element of climate which seems to play the most important part beyond doubt is temperature. It determines and controls in a marked manner the forms of disease by which man is attacked, and the causes of death. We know this definitely, but we are scarcely yet in a position to predict the exact effects of climatic abnormalities on our tables of disease and mortality, though I think we know enough to enable us to look with some confidence for an increase of certain classes of disease as the sequel of certain climatic conditions. For instance, the exceptional heat in this country during these six months would lead us to look for an exceptional frequency of deaths from diseases of the abdominal organs. Whether this did or did not actually take place, I am not able to say. It would be an inquiry nearly, if not quite, as elaborate as Mr Buchan's, which would enable us to determine this, and to say whether and in what way this abnormal climate influenced the life and health of our population. Such an inquiry, thanks to the labours of the society's secretary, we have now the means of satisfactorily making, and I rrust some competent person will undertake what would certainly be a work of public utility, as well as one of great scientific interest. To one fact relating to public health, I would direct attention. It is this. So far as the eight principal towns in Scotland are concerned, the mortality during the period in question has been higher, allowance being made for increase of population, than during the same months in any of the ten years since the Registration Act was in force. The registrar tells us that "this heavy morality cannot be accounted for by the increase in the epidemic class of diseases alone, great as was the increase on that class, but extended to all the different classes of disease to which the inhabitants are liable, showing that the population of these towns have at the present moment a greater tendency to disease and to death than they have had for the last ten years." This was written in July, but the same increased tendency to death continued to be manifested in November. A surface examination does not show what I stated we might expect to find as the result of the exceptional heat; and I think it would be necessary to extend a careful attention to dryness as well as temperature, that being the other great characteristic of the weather of the period we are dealing with. My remarks end pretty much where they began, with the assurance that such a disturbance of our climate as Mr Buchan has established cannot have passed over us without finding an expression in our sick-lists and death-rates; and I believe a careful examination of the materials we possess or can obtain would enable us to define with tolerable precision the character of that expression. Let me say one word before I sit down as to the rinderpest. That disease is believed to have been brought over to us from Holland in June last, and there appears very good reason for this belief. But it is possible, if not indeed probable, that these were not the first affected animals brought into this country in late times. Nay, it is possible that in every one of many late years, cattle labouring under rinderpest have reached this country, and that the disease did not spread simply because the conditions for its growth did not exist. These conditions may this year have been created by the peculiarities of the weather we have had. This is possible, if not probable, and the point deserves looking into. We must remember that Mr Buchan has told us that we have not had such weather as last year's for a period of seventy to ninety years. Perhaps, if earlier observations had existed, this period might have been found to be still higher.

Mr MILNE HOME said he was glad to hear Dr Mitchell was pleased with the manner in which Mr Buchan had brought forward this subject, because he observed that it was a subject of remark by many persons that the great want which medical gentlemen had felt in studying diseases, both in regard to their propagation and in regard to their origin, was the want of accurate information with regard to the state of the atmosphere at the time this disease appeared. To supply this want, the Council had thought it would be interesting to have clearly ascertained what were the meteorological conditions of Europe during the past summer—considering that, in the first place, the season was very remarkably different from previous seasons; and, secondly, that there were two epidemic diseases which had prevailed more considerably in various parts of Europe than in former years. He alluded to the cholera, which had prevailed extensively in the south of Europe, and had even come into this country to a certain extent; and the rinderpest, to which Dr Mitchell had also alluded. There were two points which required consideration in the study of these epidemics. The one was the way in which these epidemics spread, and the other their origin. He was inclined to think that they had been influenced very much by atmospheric conditions, and referred to some observations he had taken in 1846–7 in regard to the potato blight, as showing that that disease was very intimately connected with the weather prevailing in these years, and that the poisoned virus, or whatever it was which produced it, was carried by the atmosphere. There was no doubt that it was also the case in regard to many epidemics that they were carried by the atmosphere. In like manner, the cholera was well known to be carried by the atmosphere, under what peculiar meteorological conditions had not yet been ascertained. In the case of the influenza which appeared in Peru in 1850, he had learned from a valuable paper which had been supplied to the society by Dr Smith, for many years resident in that country, that it passed over 1500 miles in one month, affecting natives and Europeans simultaneously. And he had also shown by some very interesting cases that over immense tracts of the same country fever prevailed in certain conditions of the atmosphere. They knew that yellow fever had been brought to this country, but that it would not spread. It required a temperature exceeding 60 deg. or 64 deg., and it originated in the West Inaies, where the temperature was frequently so high. But when brought to Spain, or Southampton, or Liverpool, though it existed in individual cases it would not spread as an epidemic. There being no doubt that many of those diseases to which reference had been made as affecting the animal world were carried through the air, it was desirable to know what were the meteorological circumstances in which these would spread. With reference to the rinderpest, he had received an interesting account from the county of Aberdeen, showing the way in which it had spread in that district, the result of which was that, while it was proved to have spread by contagion in three or four cases, as a general rule the poisoned virus was believed to have been carried by the movement of the wind. In answer to the queries which had been put with regard to twenty-three different herds of cattle, it was replied that, in one case, the disease had been communicated by direct contact; in two cases, by the animals having been taken over ground where diseased animals had been; in seven cases it was communicated by men; and in thirteen cases the medium was not conjectured, but, pretty certainly, was not by any contact with diseased animals. The notion of the gentleman who

had made these inquiries was, that the virus was not communicated by contagion, but by being carried by the wind. He mentioned, as corroborative of this theory, that when the potato blight was in the country, it happened, in two cases where the potatoes were under cover, that they were exempted from its influence; and in two or three other cases—one in the neighbourhood of the copper works, near Swansea, where the air was strongly impregnated with arsenious fumes, and in another in the county of Durham, among the smoke of the mines and collieries—the potatoes were quite healthy. It was believed that the vapours prevailing in those atmospheres had neutralised the virus, whatever it was, which caused the blight. Many medical gentlemen, in writing about the cholera, expressed an opinion that there was some specific poison which caused the cholera, and that if it was possible to discover what that was, great benefits might result from predicting when it was likely to occur, or perhaps even in counteracting its influence by some precautions. In conversation with Mr Hope of Fentonbarns, the other day, that gentleman had mentioned to him that the track of the cattle plague in East Lothian was from south-west to north-east—that was to say, that after a diseased centre had been formed at some part of the country, it inevitably spread to the north-east. He understood that the same thing had been observed in Fifeshire; and perhaps Mr Russell of Pilmuir, who was present, might give the meeting some information upon that point. In Berwickshire, after the disease was established in the village of Swinton, where a person lost twenty cows, the disease spread chiefly towards the east, which was the direction of the prevailing winds. He thought it was thus clearly established that in this epidemic the poison was to some extent carried by the wind. He had no doubt that the meteorological statistics which had been laid before the meeting would form a most interesting basis for the speculations of medical gentlemen, and might draw out important views upon the question of the relation between disease and the condition of the atmosphere.

Mr Russell, of Pilmuir, said that Fife bore out to a very remarkable degree the view that the contagion was carried in the atmosphere. The same observation had been made in Mid-Lothian and in Lincolnshire, that the progress of the disease had spread from south-west to north-east. Mr Oswald, of Dunnikier, had on Wednesday week told him that at Kirkcaldy and Dysart, and the district on that coast, there had been very few cases of rinderpest, but to the north of Kirkcaldy, and in the Lomond Hills, there was a tract of land, almost up to the Tay, where scarcely a clean farm was to be found. The general opinion of the farmers, although going on the idea that it was one of contagion, was that the disease was carried by the atmosphere. Along the coast of Fife, from Kirkcaldy to Crail, there had been very little rinderpest, and east from Elie one case had occurred; but in the Cupar district the disease had manifested itself for the last four or five weeks in from six to eight fresh farms per week. The general opinion of the farmers was that it was carried by the atmosphere.

The Marquis of Tweeddale—Do you know any instance of the disease having gone against the wind?

Mr Russell—Scarcely any.

Mr George Seaton suggested, for the proper keeping of the record of the rainfall, that the present mode used in Scotland of including the last day of the month, after nine A.M. in the next month, should be abandoned in favour of the mode observed at Greenwich of including the first day of the month, up to 9 A.M. in the previous month. By the present method they threw fifteen hours from one month to the other, whereas by the plan he proposed only nine hours would be taken in.

It was then resolved, on the motion of Dr A. K. Johnston, to appoint Dr Arthur Mitchell and Dr Scoresby Jackson to conduct the investigations into the connection between the state of the atmosphere and the health of the population.

The Marquis of Tweeddale said he had listened with great attention to the very elaborate and complete paper by their secretary, as well as to the comments by Dr Mitchell and Mr Milne Home. He thought the society was greatly indebted to them for bringing the subject under consideration. He begged to congratulate the meeting on the increasing importance of the Meteorological Society, and on the increasing number of members which annually joined them. Those gentlemen who read with attention the half-yearly reports made by the council would, he thought, agree with him that they were rapidly overcoming all the difficulties attending the establishment of a new institution. They had successfully laid the foundation, on an extensive scale, of a system by which they would be able henceforth to supply meteorological statistics, through the instrumentality of a numerous staff of observers, subject to the correction of the Astronomer Royal of Scotland. This would enable our philosophers to draw deductions from the phenomena of nature on surer grounds than by trusting to the ingenuity of their own minds to supply the material. He had no doubt that very shortly the published observations of the society would not be confined to Scotland alone. They had had communications with the authorities of the different countries lying to the north of Scotland, and he was glad to say they had accepted our proposals in the most friendly manner for extending their observations to parts which would ensure a matured result to all who took an interest in meteorological phenomena. He was sure the society was doing all that could be expected of a local society. It occurred to him that, though they had been so successful so far, there was a point on which strangers might naturally be astonished—namely, our having no meteorological statistics upon the area between the British Isles and the coast of America. He believed that Government had published certain papers upon the subject, but it appeared that these papers did not show themselves to be founded upon any particular statistics. He believed that by means of the commanders of the Cunard and other companies' vessels passing so constantly in the summer season across the Atlantic, the statistics required might be obtained, and he thought they had only to ask in order to get the observations made by the officers during the voyages. He concluded by expressing, in the name of the society, the sense they entertained of the energy and correct manner in which their observers sent in their schedules for correction by the Astronomer Royal of Scotland, and he was sure they must feel indebted to so high an authority for his assistance in preparing these observations before they were submitted to the public.

After some remarks by the Rev. Dr George Johnston, a vote of thanks was accorded to the Chairman, and the meeting separated.

Meeting of Council, in the Society's Chambers, No. 4 Queen Street, on 5th April 1866, at 2 P.M.

Present – Mr. Milne Home – in the Chair –
Vice Admiral Ramsay
Professor Balfour
Mr. R. M. Smith
Mr. Cunningham
Admiral Sir William J. Hope Johnstone
Mr. Stephens
Dr. Mitchell
Dr. Scoresby Jackson
Mr. Keith Johnston
Mr. Sanderson
Captain Thomas
The Secretary
The Treasurer –

The Minutes of the two last Meetings of the Council, held on 10th and 24th January last, were read, and found correct –

The Chairman reported, with reference to the Apartments assigned to the Society in the New Post Office Buildings, that he had seen Mr. Matheson, of Her Majesty's Board of Works, regarding them, and he read a letter which he had received from that Gentleman, dated 4th inst., and exhibited plans which had accompanied it – The letter is in the following terms –
"Office Her Majesty's Works Edinburgh, 4th April 1866 –
"Dear Sir, I have now received the authority of the Hon.
"The First Commissioners of Her Majesty's Works, &c., to
"arrange with you as Chairman of the Council of the Scot-
"tish Meteorological Society for the use, temporarily, of
certain

"certain Apartments in the New General Post
"Office Buildings - These are situated on the North
"West Corner of the Upper Floor, and consist of the
"following Apartments, namely -
"Meteorological Society Meeting Room -
"Secretary's Room -
"Clerks' Room, and Library for Reports -
"Two Small Closets, and
"Water Closet -
"The Rent to be paid by the Society for these Apartments
"is at the rate of £30 - p annum payable at the usual
"Terms, of Martinmas and Whitsunday; and the said
"Apartments to be vacated by the Society, at any
"time on the Chairman receiving six month's notice from
"the Honble The First Commissioners of Her Majesty's
"Works &c that the same are required otherwise for
"the Public Service - I have, the honor to be, Dear Sir,
"Yours faithfully (sgd.) Robert Matheson - D. Milne Home
"Esq., 4 Queen Street" The Chairman stated that he had understood, from Mr Matheson, that Grates and Gas Apparatus were in the Apartments, so that the Society would not be required to supply these; but that it was expected that the Society should pay a proportion of the Expence of Coals, and of the wages of a Servant who cleaned the office, and attended to the fires, &c. - All these arrangements were agreed to - and thanks were voted to the Chairman for all the trouble he had taken in the whole matter connected with the obtaining the benefit of accommodation in the new Post Office Buildings - He was requested and agreed, to communicate with Mr. Matheson the Council's acceptance of the grant of the use of the Apartments on the terms mentioned in his Letter.

Letter of 4th inst.; and to request Mr. Matheson to make known to the Commissioners of Her Majesty's Works, and to the Lords of the Treasury that the Council feel extremely obliged by having received from them so prompt a reply to the application made to them by the Chairman on the subject.

A Committee consisting of the Chairman, Vice Admiral Ramsay & Dr. Johnston — the Chairman convener — was appointed, for taking all due steps for having the Apartments in the New Post Office Buildings suitably furnished.

The following Returns and Reports were agreed on for insertion in the forthcoming number of the Journal; viz. —

1. Report by Mr. Buchan on the effect of Drainage on the temperature of the Soil.
2. Letter from the Chairman referring to the foregoing paper.
3. Table of Observations connected with the Seasons 1865.
4. Sea temperatures on the Coast of Great Britain, with Remarks by Mr. Buchan.
5. Report of Committee on Medico-Climatology.
6. Abstract of Meteorological Observations at Inveresk for 1865, and twelve previous Years.
7. Table of Rainfall at Aberdeen from 1829 to 1865, and table of Rainfall at Deanston House from 1837 to 1865.
8. Notes on the prevailing Weather and State of Vegetation, &c., at various Stations of the Society.

It was resolved that the next subject for investigation to be undertaken by the Secretary was to be the Meteorological Characteristics of the Weather of

of last Winter (October 1865 to March 1866)-

Mr Buchan reported that he had visited the Society's Stations at March Hall, Perth and Deanston House and had on some points suggested improvements, in the Instruments and position of them, which he had no doubt, would be immediately adopted-

Dr Johnston reported as a result of a communication he had had with The Board of Trade, that The Board had sent to Mr Sopwith, the Society's Observer at Cyprus, a very complete set of Meteorological Instruments- He also reported that he had seen Mr Muller, Governor of the Faroe Isles, who had agreed to make Observations for the Society there. It was resolved to apply to the Board of Trade to send the required Instruments to this New Station-

Mr Buchan submitted a Form of a Schedule for Ship Owners, and Sea Captains, to record observations, on the Temperature of the Sea, and other Meteorological dates, made in voyages- The form was approved and ordered to be printed-

Mr Buchan states that the mode of entering the Rainfall, by the Society's Observers, was not uniform some, indeed by far the greater number on entering the rain read off for the 1st of the month as the fall for that day, others entering it as the fall for the last day of the previous month- He recommended as is most desirable one uniform method be adopted, that Observers be instructed to read the Rain Gauge at 9 Am and enter that reading for the day previous; and where the readings are not taken daily, that the Gauge be always read on the First of each

each month, and the Amount then collected be considered as belonging to the previous month and entered accordingly — The Council agreed to sanction this recommendation, and would strongly urge those Observers who have not yet adopted it to do so without delay —

The following Gentlemen on the motion of the Chairman elected Members of the Society in terms of the Rules, viz:—

As Life Members —

David A. Paterson Esq., Restalrig Park	£5. – –
John Crabbie Esq., Royal Terrace	5. – –

As Annual Members —

John Gray Esq., Elgin Haugh	£ – .10. –
James Jamieson Esq., Kirkcaldy	1. – –
James A. Wenley Esq., Assistant Secretary Bank of Scotland	– .10 –
George Barclay Esq., 1 Carlton Terrace	– .10.6
Charles Stein Esq., 127 Constitution Street.	– .10.6
John Muirhead Esq., Salton, Tranent	– .10 –
James Wallace Esq., Agent for the National Bank of Scotland, Leith	– .10.6
Rev. Robert Gordon, Free Buccleuch Church	.10. –
James Robson Scott Esq., M.D., of Belford, Kelso (proposed by Mr. Sanderson)	1.1. –
James Alexander Esq., Leith Walk Nursery	– .10 –

Thanks were voted to Mr. R. M. Smith for Meteorological Observations made in Iceland, presented by him to the Society. It was mentioned that the Weather of last Winter had been peculiarly severe in both Iceland and the Faroe Isles —

Thanks were also voted to Mr. Freeman for his services while at Menton, which he is about to leave, and a request to be made of him that he would

would kindly suggest some Gentlemen whom he may consider qualified to supply his place as Observer at Menton -

The Chairman laid on the table two News:papers containing Notice of Meteorological Observations taken at Cannes -

Mr Sanderson read and handed to the Secretary, a letter mentioning Meteorological Observations, as having been made, on the Temperature of the Mediterranean, on board the Vessels of the Peninsular and Oriental Steam Navigation Company -

The following Donations to the Society's Library since last Meeting were reported

Meeting of Council, in the Society's Chambers, in the New General Post Office Buildings, on Friday the 18th May 1866, at 4 P.M.

Present - R. M. Smith Esq., in the Chair - in the absence of Mr Milne Home -
Admiral Sir Wm J. Hope Johnstone
Mr Stephens -
Mr Cunningham -
Dr Scoresby Jackson -
Mr Stevenson -
The Secretary.
The Treasurer -

Apologies were made for the absence of Dr Jackson and Johnston -

The Minutes of last Meeting of Council held on 5th Ulto, were read and found correct.

The Treasurer reported on the part of the Members of the Committee on Furniture appointed at last Meeting, what had been done as to the furnishing of the Council Room, and laid before the Meeting and read, an Estimate and Offer by Mr Murray of Messrs Dalgleish and Forrest No 4 St Andrew Square, which had been accepted and he directed attention to the table and chairs &c which had been supplied by Mr Murray in terms of the said Offer - The Meeting approved of what had been done -

Mr Buchan submitted to the Meeting Messrs Murray & Gibbs account for printing the Society's Journal for the past Year and a relative letter from Messrs Murray & Gibb - The Meeting authorized

authorized the payment of the Account; and a   was made to Mess^rs Stevens and Stevenson to consider as to what it might not be advisable to take in Estimates for the Printing of the Journal.

Mr Buchan laid before the Meeting, and read, a copy of a Report by the Secretary and Engineers and the Commissioners of Northern Lighthouses, which these Gentlemen proposed should be adopted by the Commissioners as the result of a   made by the latter to their Secretary and Engineers of the Memorial of the Council lately sent to the Commissioners – the said Copy Report having been sent along with an Explanatory Letter from the Secretary of the Commissioners to Mr Buchan, for the consideration of the Council before it should be formally communicated as the answer of the Commissioners to the Memorial – The Meeting considered the Report as being as favorable to the desire expressed in the Memorial, as, it would appear, the Commissioners had it in their power to make it; and they requested Mr Stevenson to express to the Commissioners the best thanks of the Council for their Compliance, in so far, with the wishes expressed in the Memorial – As regards the proposal made in the Report that the Meteorological Secretary should visit the Stations of the Light Houses for the purpose of examining and Comparing the Meteorological Instruments in use at these Stations, the Meeting agreed to meet the wishes of the Commissioners in these respects when circumstances may admit of it.

Mr Smith was authorized to procure, at the Society's

Society's expence, two Marine Thermometers, one for the Rev. O Pálsson, Reikiavik, and the other for Mr. Thorlacius, Stykkesholm, both places being in Iceland, both of whom had undertaken to make ~~use of~~ Observations for the use of the Society, and to transmit them to these Gentlemen also at the expences of the Society; and the thanks of the Council were voted to Mr. Sigurdsson, Secretary of the Icelandic Literary Society, for the Volume of Records, taken in Iceland of Meteorological Observations, from 1823 to 1836, presented to the Society—

The following Gentlemen were on the motion of the Chairman, unanimously elected Annual Members of the Society, in terms of the rules viz.

Dr. Smith, County Asylum, Durham, proposed by James Bryson Esq.,	£ - - 10 -
Charles Williamson Esq., 10 Carlton Terrace	- - 10.6
Thomas Shiels Esq., Wine Merchant, Leith	1.1 -
Robert Adamson Esq., Hermon Hill, Dundee	1 - -
Peter Carmichael Esq., Densworks, Do.	1.1 -
Messrs. Kinmont, Luke & Co. Merchants Do.	1 - -
Robert Mackenzie Esq., Manufacturer Do.	1.1 -

and Arthur Trevelyan Esq., Tyneholm, was, at his own request transferred from the list of Annual to that of Life Members —

Meeting of Council, held in the Society's Chambers, on 1st June 1866, at 2 P.M.—

Present— The Marquis of Tweeddale—in the Chair—
Mr Milne Home—
Mr Stephens—
Mr Stevenson—
Professor Balfour—
Mr Smith—
The Secretary—
The Treasurer—

Apologies were again made for the absence of Dr Johnston and Dr Jackson—

The Minutes of last Meeting held on 18th Ult. were read, and found correct—

The Noble Chairman and each Member of the Council present gave expression to a feeling of deep regret at the Society's loss of its respected Vice President, through the Decease of Sir John Hepburn Stuart Forbes—

and it was resolved that an application be made to the Board of Trade for a grant to such Instruments as would be required in carrying out the proprosed Arrangement with the Com=missioners of Northern Light Houses.

Mr Milne Home read a letter, dated 21st Ult., which he had received from Mr R. Stuart, Consul in Albania, with a request of a grant of Certain Instruments from the Society.

The Meeting requested Mr Milne Home to mention in reply that the Society had no Instruments at its disposal.

A Letter from the Secretary of the General Post Office as to the share of wages to the House keeper of the Post Office for the cleaning &c of the Society's Rooms was read. The sum proposed to be charged appeared to the Meeting to be rather high, and Mr Milne Home agreed to communi=cate to Mr Abbot of the subject after seeing the Secretary of the Lunacy Department who have rooms in the Post Office Buildings.

Messrs Stephens and Stevenson reported the opinion they had formed on the subject remitted to them at last Meeting as to the expediency, or not, of taking in Estimates for printing the Journal. After a full consideration of the subject Messrs Stephens & Stevenson under=took to see Messrs Murray & Gibb on it, and endeavour to arrange with them for a continuance of their printing the Journal, on terms more satis=factory than the present ones.

The subject of the present Life Subscriptions was then considered, and it was agreed to propose to the next General Meeting that the future Life Subscriptions be Ten Guineas in all cases.

It was resolved that, as last Year, the Half Yearly General Meeting be held during the 1st or 2nd week of July - to be advertised as usual and a copy of the advertisements to be sent to every member of the Society resident in the Three Lothians or in Fife - Mr. Buchan expected to have ready for the Meeting if deferred to the time mentioned a paper on the weather of last winter and Spring, and also, he hoped a paper on the subject of the East Wind -

A Copy of a work by Professor Jelinek, of Vienna, was laid on the table and it was agreed that a proposal should be made to him of an interchange of publications between this Society and the Meteorological Society of Austria -

The Noble Chairman and Mr. Smith each referred to the subject of obtaining Extracts from the Logs of Merchant Ships trading between this Country and the West Indies and other Countries beyond Sea; and as His Lordship expected to be in Glasgow shortly he promised to communicate to parties there on the subject -

The two prizes offered by The Marquis of Tweeddale for Papers on Drained and Undrained Land having been awarded to D. Rankin, Otter House, and Mr. John Garnock, North Esk Reservoir Co., His Lordship requested the Treasurer to transmit the Amounts to these Parties on His Lordship's remitting it to him -

Dr. Haldane of Ayr, was unanimously elected an Annual Member of the Society, having been proposed by Mr. Cathcart, of Auchendrane.

. Mr. Milne Home presented to the Council a whole-length Photograph of His Royal Highness Prince Alfred, with H. R. H. Autograph, which he had kindly admitted to the Photograph, on the occasion of the Address, and Volume of the Society's Reports, being presented to him at Holyrood House, in April 1864.

It being expected that Dr. Johnston the Society's Auditor would be absent from Edinburgh till after the approaching General Meeting, Mr. Milne Home, and Mr. Stephens undertook to examine and Report on, the Treasurers' Accounts for the past Year—

Meeting of Council, in No 5 St. Andrew Square, on 13th July 1866, at noon -

Present - The Marquis of Tweeddale - in the Chair -
Mr. Milne Home -
Vice Admiral Ramsay -
Professor Balfour -
Mr. Smith -

The Secretary -
The Treasurer -

The Minutes of last Meeting of Council, held on 1st June last, were read and found Correct -

A Report from the Council of the Half Yearly General Meeting about to be held, prepared by Mr. Milne Home was approved and adopted -

At the request of the Noble Chairman the following Gentlemen were appointed a Committee for consideration of certain apparent discrepance between the result of Dr. Rankin's Observations on Drained and Underdrained Land and those made at Yester House. viz, Mr. Milne Home Mr. Stephens and Dr. Johnston - And it was arranged that the Observer at Yester House should attend a Meeting of the Committee on the subject -

The following Gentlemen were Elected Members of the Society in terms of the Rules -

As Life Members -

George Blanchard Esqr., Carlton Terrace £ 5. - -

As Annual Members -

William Myles Esqr., Accountant, Dundee 1.1. -

James G. Orchar Esqr., Wallace Foundry. Do. - 2.2

John S. Mackay Esq.,	Grangemouth	£ – 10 –
George G. Mackay Esq.,	Do.	– 10 –
John G. Urquhart Esq.,	Vellore Castle Falkirk	– 10 –
Rev. G. R. Badenoch,	Edinburgh	– 10 –

The Accounts of the Treasurer, as examined and docqueted by Mr. Milne Home and Mr. Stephens were laid on the table.

Mr. Calder, Yetholm Mains, who lately joined the Society, having expressed willingness to take Observations for the Society, Mr. Buchan was directed to correspond with him on the subject.

A Memorial to the Board of Trade, having reference to the Report made to them by the Committee appointed by Her Majesty's Government as to what arrangements ought to be ~~paid~~ made for carrying on the Meteorological Department presided over by the late Admiral Fitzroy, was submitted, and approved, and directed to be laid before the General Meeting, for their approval.

Mr. Buchan reported that a Meeting had ~~to~~ taken place, since last Meeting of Council, between the Committee then appointed, and Messrs. Murray & Gibb, Printers, as to the expense, in future, of printing the Society's Journal &c., and the Committee, consisting of Messrs. Stephens and Stevenson, were requested to have the arrangement come to reduced to writing.

Meeting of Council, in the Society's Chambers, on 4th September 1866, at 1 P.M. —

Present —

Mr. Milne Home — in the Chair —
Vice Admiral Ramsay —
Dr. Johnston —
Mr. Sanderson —
Mr. McLaren —
The Secretary —
The Treasurer —

Professor Balfour had written the Treasurer that absence, in the Country would prevent, his being present at the Meeting. A letter from The Marquis of Tweeddale to Dr. Johnston was also read mentioning that another engagement would prevent his attendance.

Mr. Smith also had sent notice of his inability to be present —

The Minutes of last Meeting held on 13th ulto. were read and found correct —

An answer from the Board of Trade to the Memorial referred to in the Minutes of last Meeting of Council was read —

A letter from Messrs. Murray & Gibb, Printers, dated this day, was read, and remitted to the Committee appointed at last Meeting that they might report as to its correctness in representing the agreement come to.

The Council had laid before it, a Report by Mr. Buchan regarding Stations in Iceland and the Faroe Is

Faroe Islands, and in St Kilda —
Mr Buchan also read a letter from Mons Le Verrier the Director of the Imperial Observatory, Paris, expressing great satisfaction at the prospect of Meteorological Stations being formed at those places. The Council, considering it of the highest importance to carry out Mr Buchan's suggestions

SCOTTISH METEOROLOGICAL SOCIETY.

From Edin. Courant of 14 July 66

The half-yearly meeting of this society was held yesterday at 5 St Andrew Square—the Marquess of Tweeddale, president, in the chair. Among the other gentlemen present were—Mr Milne Home of Wedderburn, Admiral Ramsay, Professor Balfour, Major Middleton, Murrayfield; Dr Scoresby-Jackson, Dr W. Brown, Dr Baikie, Mr R. M. Smith, Rev. F. Redford, rector, Silloth; Mr W. Gray, Southfield; Mr Hope, South Elphinstone; Mr Stowe, East Linton; Mr Tennant; Mr Strong, and Mr John Russell. There were also several ladies in attendance.

Mr Gibson' C.A., read the report of the council, which stated that the number of stations now in connection with the society was 81—two having been discontinued, and three new stations established during the year. The observatory at Braemar in connection with this society is about to be remodelled by command of her Majesty. The council were happy to state that apartments had been assigned to the society by the Government in the new buildings connected with the General Post Office. The abstract of accounts show the income for the year to be—including £57, 14s. 7d. of a balance at 5th July last—£513, 10s. 1½d., and the expenditure £385, 15s. 0½d., leaving a balance of £127, 15s. 1½d. The council, in compliance with a resolution of a former general meeting, have taken measures for capitalising the subscriptions of life members. With reference to these life subscriptions, the council recommend that the amount should be in future £10, 10s. The number of members of the society is now 572, of whom 490 are annual subscribers and 82 life members. The report concluded by alluding to the loss which the society had sustained in consequence of the death of Sir John Forbes, one of the vice-presidents. It stated that it was very much in consequence of a paper published by him in the Transactions of the Highland Society on the climate of Great Britain, and on the want of any authentic instrumental statistics of the temperature and rainfall of the country that the idea of establishing a meteorological society originated; and that no one exerted himself more in founding the society than he did, and in aiding the council by his advice. The council respectfully suggested that some minute should be passed by the meeting expressive of the society's loss.

On the motion of Dr W. Brown, the report was approved of.

Mr Milne Home said a special resolution had been suggested in the report which he should feel great pleasure in being allowed to make, in consequence of the great regard in which he held his late esteemed friend, Sir John Stuart Forbes:—"That this meeting records its deep regret at the recent death of Sir John Hepburn Stuart Forbes, Bart., of Pitsligo, who so long held the office of president of this society, and who did so much to promote its establishment, and create a taste for meteorology in Scotland; and they desire also to express their appreciation of his upright character, and of his services as a useful member of the community. The meeting requests the noble chairman to communicate this resolution to Principal Forbes, the surviving brother of the deceased."

Professor Balfour seconded the motion; which was unanimously agreed to.

METEOROLOGICAL CHARACTERISTICS OF THE WINTER OF 1865-66.

Mr Buchan, in making a statement on this subject, stated that it was in continuation of a paper giving the characteristics of last summer, and read at last half-yearly meeting. He had prepared twenty-six maps of Europe, one for each week from 1st October 1865 to 31st March 1866, and also another map giving a summary of the results obtained. As regards the main results, the most noticeable point was this, that at all places in Europe from which he had observations, and he had them from 70 or 80, the temperature on a mean of the six months was at least the average and above, in some places very considerably above. There were three regions in Europe where the temperature was remarkably above the average—Lapland, north of Sweden, and north of Russia. In each of these it was four degrees above the average, and a little further north it was fully five degrees above the average. He entered into details as to the state of the temperature in other districts, the average on particular weeks being as high in some places as 21 and 28 degrees. By the results of such investigations as these, he thought they might be enabled in the course of years to make a comparison between the temperature that prevailed and the deaths that occurred.

EAST WINDS.

Mr Buchan also made a statement in reference to the east winds of May last. He stated it was well known that the east winds acquired in Britain the greatest prevalence in the month of May. Taking the average of the whole of last May, the east winds were no more prevalent than usual, and they occurred on about the same number of days as the previous May; but instead of having them for the first ten days and the last six as formerly, the winds were from the south-east, and from the 17th to the 27th the winds were from the east. During that time the month acquired a dryness which had never once occurred during the last ten years.

Mr Milne Home made some observations on Mr Buchan's paper. He stated that an examination of the different weeks during which Mr Buchan's observations extended, showed that in some weeks there was an excess of cold. In the week ending 24th February there was an excessive cold in the north-east of Europe, and the week ending 31st March was also colder than usual. In reference to the east winds prevailing more in the months of April and May than in any other seasons, they knew that during winter, owing to the excessive cold, the air occupied a smaller space, and it accumulated in the Acrtic regions. That went on until the month of February, and the sun extending its influence north into Europe, heating the great continent of Asia and Africa, and also Spain, produced an effect exactly similar to lighting a fire in a room. The moment a fire was lighted a draft was produced, and air came in from the door and windows. As the Continent became heated a current of air was drawn from the Arctic regions and filled up the vacuum caused by the heat in the south.

REPORT ON THE LATE ADMIRAL FITZROY'S DEPARTMENT.

Mr Milne Home said that a report had been drawn up by a committee appointed by her Majesty's Government, consisting of three persons—one representing the Royal Society of London, another the Board of Trade, and the third the Admiralty, on the Meteorological Department, presided over by the late Admiral Fitzroy. The committee recommended in the report that sea observations, which had been formerly taken by merchant ships and ships of war, but had been discontinued, should be again taken. They recommended also that there should be stations in Britain for making observations on land with self-recording instruments. There was an instrument of that kind at present at Kew, the record being taken by the use of photography. It was proposed that two of these should be erected in Scotland—one in Glasgow and the other in Aberdeen; but the council thought one might also be placed further north, either in Shetland or Orkney. Besides, these returns were to be obtained from sixty or seventy stations in the ordinary way. The committee suggested, in regard to signal storms and forecasts of the weather, that the daily forecasts relating to ordinary weather should be stopped, but that the storm signal should be continued, with one alteration, which the council did not approve of—that was, the withholding of information as to the direction in which the storms would come. The report also urged upon Government to make a grant for the carrying out of these purposes. Mr Home, after reading a memorial on this subject, which had been agreed to by the Council, moved—"That the meeting having had laid before it a copy of the report of the committee appointed by her Majesty's Government to consider the arrangements necessary for carrying on the Meteorological Department presided over by the late Admiral Fitzroy, approves of the memorial to the Board of Trade suggested by the Council, and authorises the noble chairman to sign the said memorial as president of the society, and transmit it to the chairman of the Board of Trade."

Dr Baikie seconded the motion; which was unanimously agreed to.

The Marquess of Tweeddale expressed his delight at hearing the statements of Mr Buchan and Mr Milne Home, and expressed a hope that in a matter which, as the people of Scotland and England were beginning to see, related so much to their comfort and health, and affected so many branches of industry in the country, the Chancellor of the Exchequer would be induced to provide for the carrying out of the recommendations of the committee to which Mr Milne Home had referred.

On the motion of Dr Scoresby-Jackson, a vote of thanks was given to the noble chairman for presiding; and the proceedings terminated.